

# JOURNAL

OF THE

## Royal United Service Institution,

WHITEHALL, S.W.

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VOL. L.

JULY TO DECEMBER, 1906.

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1906

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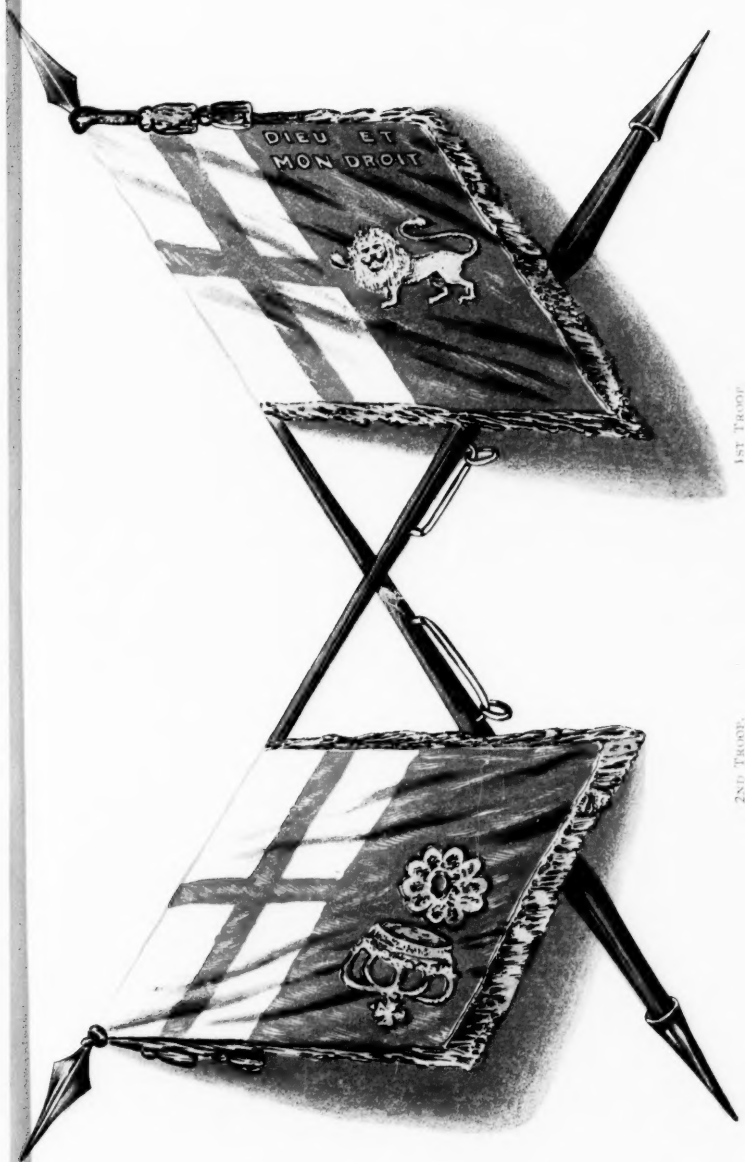
THE BARN AND STROUD RANGEFINDER. FQ TYPE, "INFANTRY."  
1 METRE BASE.  
FOR USE WITH INFANTRY, CAVALRY, AND MACHINE-GUNS.

The Rangefinder is constructed largely of Aluminium. It is covered externally with brown leather, and is fitted with pads on the ends to prevent damage by rough handling. It is supplied in a strong leather case (as shown) fitted with a shoulder-strap, and can readily be carried on a man's back, either on horse or afoot.

The tripod shown in the illustration is *not* supplied with the instrument, as the Rangefinder is so constructed that it can be used with ease by an observer without a stand when kneeling, standing, sitting, or lying prone. A suitable stand, however, can be supplied at extra cost, if desired.

Approximate uncertainty of observation:—

At	100	yards	is	equal	to	1	yard.
"	1000	"	"	"	"	5	yards.
"	3000	"	"	"	"	40	"



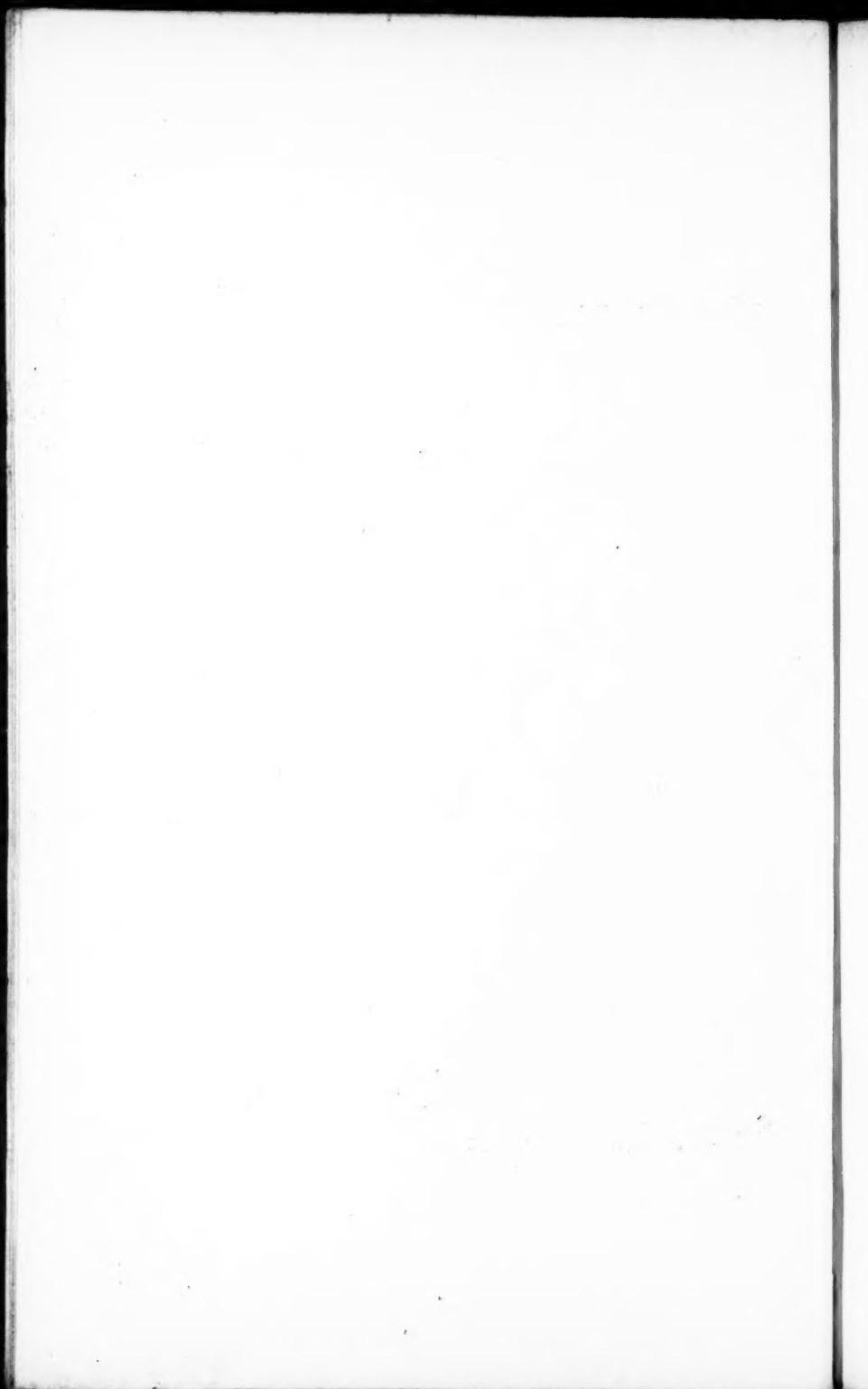
1ST TROOP

2ND TROOP

# STANDARDS OF THE KING'S REGIMENT OF LIFE GUARDS.

(A.D. 1645.)

*Reproduced by permission from Colonel Clifford Walton's work, For description see Home Military Notes.*



# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION.

Vol. L.

JULY, 1906.

No. 341.

*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

1. The following officers joined the Institution during the month of June:—

Lieutenant J. Withers, R.N.R.  
 Captain G. Drage, Indian Army.  
 Major R. U. H. Buckland, R.E.  
 Lieutenant A. M. Scovell, Seaforth Highlanders.  
 Major C. M. Dobell, D.S.O., Royal Welsh Fusiliers.  
 Second-Lieutenant Sir G. W. Abercromby, Bart., Scots Guards.  
 Captain L. H. R. Pope-Hennessy, Oxfordshire Light Infantry.  
 Major C. S. Dodgson, Army Service Corps.  
 Colonel J. M. Templeton, late Australian Forces.  
 Captain C. Behrens, late R.A.

(No officer of the Royal Navy, Militia, Imperial Yeomanry, or Volunteers joined the Institution during the month.)

The Council have pleasure in reporting that up to the end of June the List of Members shows an increase of 36. They, however, hope that members of the Institution will not relax their energy in the direction of introducing new members. Up to 30th June of the current year, 132 officers joined the Institution. The various branches of the services were represented as follows:—

Regular Army	-	-	-	-	-	-	-	-	98
Royal Navy	-	-	-	-	-	-	-	-	12
Militia	-	-	-	-	-	-	-	-	6
Yeomanry	-	-	-	-	-	-	-	-	6
Volunteers	-	-	-	-	-	-	-	-	6
Royal Naval Reserve	-	-	-	-	-	-	-	-	3
Royal Naval Volunteer Reserve	-	-	-	-	-	-	-	-	1

Total - - - - - 132

2. The Institution will be closed for the annual cleaning, from Monday, 20th August, to Saturday, 1st September (inclusive). The Museum will be open to the public as usual.

3. The Reception by the Council was held on the evening of Wednesday, 27th June. Upwards of 600 members and their guests attended, who were received by Admiral Sir R. H. Harris, K.C.B., K.C.M.G., the Chairman. His Royal Highness the President (owing to mourning), was unable to honour the Institution with his presence.

4. Captain H. J. G. Garbett, R.N. (retired), the Editor and Librarian, who, under the age clause, had completed his term of service last March, has received an extension until the age of 65.

5. Mr. R. Dane, the Library Clerk, who should retire under the age clause, has received an extension until the age of 65.

6. The Council have decided to resuscitate the custom, which has fallen into abeyance since the war in South Africa, of holding a discussion on the Gold Medal Essay, and it is proposed to open the Autumn Session with a discussion on last year's essay. As considerable comment has been made with reference to last year's awards in the public Press, it is hoped

that officers interested in the subject will be present to discuss the question.

7. The Council have had under consideration the question of the improvement of the Map and Chart Room. The present accommodation for the charts has been found to be wholly inadequate, and entirely new arrangements are in progress for the better keeping of both the maps and charts.

8. The attention of members is called to the rule which precludes ladies from entering the Reading Room. This rule has lately been broken on more than one occasion.

9. Subscribers to the Lending Library must pay their subscriptions, addressed to the Secretary and not to the Librarian.

10. At the request of the Committee of Imperial Defence, the Council granted, to a conference of newspaper proprietors, editors, and managers, the use of the Theatre of the Institution on 21st June, to discuss certain proposals for a scheme of legislation to regulate the publication of Naval and Military Intelligence, in times of national emergency. Mr. F. A. Walter, of the *Times*, occupied the chair. There was a considerable and most interesting discussion, and the meeting came to the decision that some form of legislation was desirable. It is of interest to record that this matter was dealt with, at some length, by Lord Ellenborough, in a Paper read at the Institution on 9th May, 1905, which was the means of bringing the question into prominence.

11. The following additions have been made to the Museum:—

- a. A piece of the keel of H.M.S. "Badger," Lord Nelson's first command.

Nelson, at the age of 20, on the 8th December, 1778, was appointed to command the "Badger" Brig. He served in her until the 11th June, 1779, when he was appointed to the "Hinchinbroke."

The "Badger" being taken out of commission and sold at Jamaica, in June, 1783, for £2,050, was utilised as a mooring lighter at Simons Bay. In 1858, she was acquired by the Table Bay Harbour Board and converted into an anchor barge, in which capacity she was employed until 1895.

Given by G. Lacy Good, Esq., M.Inst.C.E.

- b. Field Canteen of Major-General James Wolfe, who died in action at Quebec, on 13th September, 1759, at the age of 33. He was the son of an Officer of the Army, and was born at Westerham.

The City of Quebec was besieged in June, 1759, by 9,000 British Troops, under Major-General Wolfe, assisted by a fleet of 22 ships of war, under Admiral Holmes. The place was defended by about 16,000 French, under Montcalm. Wolfe was too weak numerically for an investment, and his object was to draw Montcalm into an engagement. On 31st July he was defeated in an attack on Montcalm's lines outside the City, but on 13th September, having landed above Quebec, he met and defeated the French, who evacuated the place on the 17th.

The Canteen became the property of the Hon. Robert Monckton, the second-in-command at Quebec, who subsequently attained the rank of Lieut.-General. It remained in the possession of his family until given to this Museum in June, 1906.

Given by Colonel the Viscount Galway, C.B., A.D.C., Nottinghamshire Imperial Yeomanry.

- c. <sup>1</sup> Model of a Frigate of the early 19th Century.

Given by Captain A. Foster, Oxfordshire Imperial Yeomanry.

<sup>1</sup> This model will not be on view for some time, as it requires considerable restoration. Captain Foster has generously contributed a sum of money towards the execution of the repairs.

## THE COLONIES AND IMPERIAL DEFENCE.

### THE QUESTION OF THE PROVISION OF AN IMPERIAL SERVICE ARMY RESERVE.

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*By Captain and Adjutant EDWARD ff. W. LASCELLES,  
3rd (Prince of Wales's) Dragoon Guards, late of the  
New Zealand Mounted Rifles.*

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Thursday, 8th February, 1906, at 3 p.m.

Captain the Earl of GLASGOW, G.C.M.G., R.N. (Retired), late  
Governor of New Zealand, in the Chair.

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The CHAIRMAN : — I feel very much honoured by being asked to preside at such a meeting as this—a position held by so many distinguished officers in the past. I have much pleasure in being here on this occasion, because—and I believe it is the reason why I have been asked to be here—I had the honour of being the Governor of the Colony of New Zealand for five years, from 1892 to 1897. I am afraid the date of my sojourn in those countries was one when it was not possible to form much idea of the opinion of the Colonies upon military matters. At that time the Colony of New Zealand was occupied in peaceful development; no thought of possibility of war had occurred, and any opinion in favour of a system of defence or military preparation was at once branded by the opprobrious term of militaryism. I have looked up that word in the dictionary, and I find that militaryism means “an excess of military spirit,” a defect which I do not think can be said to occur in either this country or the Colonies. But since those days we have had the war in South Africa, and whatever want there was in military spirit in the Colonies before that time was made up for by the enthusiasm with which the Colonists in Australia and in New Zealand threw themselves into that war. We there have had an opportunity of seeing what a magnificent field for recruiting—if you could recruit—or for the organisation of Regular troops, of mounted infantry, or of cavalry there is in those Colonies. Having said so much, I will not intervene any longer between you and the lecturer, and I will now ask you to listen to a paper which will be read to you by Captain Lascelles, the Adjutant of the 3rd Dragoon Guards. Captain Lascelles is a New Zealander, who went to the war in South Africa as a private in one of the mounted infantry corps. He soon became a sergeant, and although I have not had it from his own lips, nor have I seen it any-

where, he must have distinguished himself very much, because he was very soon offered a commission in the 3rd Dragoon Guards. Therefore the lecturer is a man who is able to speak to the subject of the lecture from his own experience and from his own upbringing, and I venture to think you will find it a lecture very worthy of your consideration.

#### INTRODUCTORY.

IN view of the probable assembly of the Fourth Colonial Conference at an early date, and of the fact that it is reported that a communication touching upon the subject of Imperial Defence has been addressed by the Imperial Government to the Prime Ministers of the self-governing Colonies and Dominions, there would appear to be no more fitting time than the present for the consideration of the little-understood, though most highly important, question of "The Co-operation of the Colonies in the Defence of the Empire."

It may be safely asserted that the first definite indication of the elevation of the problem of Imperial Defence to a foremost position among questions of Imperial Policy was the formation of the Committee of Imperial Defence.

It must have been earnestly hoped by all who have directed serious attention to the question of the obligations of the Colonies in reference to the maintenance of the unity of the Empire, that the formation of the Committee would be followed—as a result of their deliberations—by a definite proposal for an equitable distribution of the burden of Defence upon the various portions of the Empire. The first pronouncement explanatory of the manner in which this Committee has been working, and of the decisions at which it has arrived, was made by Mr. Balfour in the House of Commons on 11th May, 1905.

While touching upon most naval and military questions of Imperial interest, he made no definite statement regarding the prospect of the further participation of the great self-governing Colonies in the bearing of the weight of Empire; but he remarked that "as time goes on our Colonies will share our discussions on those aspects of Imperial Defence in which they are specially concerned." He further went on to say that he would "not venture to prophesy what Colonial developments might result from the creation of the Committee, but he could not doubt that the foundations had already been laid upon which a noble building might be erected."

From these remarks it may be inferred that the matter is receiving some measure of that attention to which it is entitled by reason of its great importance. It is, however, to be regretted that Mr. Balfour uttered no words indicating that it had been comprehensively and thoroughly considered by the Committee; and that he made no statement that would indicate to the people of the outlying portions of the King's Dominions the extent to which it was hoped that the Colonies would participate in sharing the burden of Imperial Defence. It may perhaps be said that it was inadvisable that reference should be made to matters directly affecting the masses of the Colonial peoples for fear that such reference might possibly be construed by them to mean Parliamentary or political interference with their rights. Such a supposition may, however, be instantly dismissed, as Mr. Balfour's statement had reference to truly Imperial politics affecting the whole Empire.

The occasion might well have been taken advantage of for the purpose of letting the Colonial peoples realise that they really are considered in connection with questions of National importance, and that their aid and co-operation in solving the present problem is both earnestly desired and expected.

The question of Imperial Defence, being the one and only question that has yet arisen upon which each and every citizen of the vast British Empire is equally concerned, and upon the satisfactory solution of which the very existence of that Empire is dependent, demands instant attention, and such action should be taken as will ensure a decided step towards that Imperial Federation that must be ardently desired by all true Imperialists.

Owing to the prevalent lack of appreciation of the light in which the question must present itself to the people of the self-governing Colonies, it will be justifiable to touch upon several considerations that may appear to be obvious, and to other considerations that may appear to be of minor importance, for although the question has been the subject of serious attention, true realisation of some of the phases appears to have been sadly lacking.

The diffidence supposed to exist among the people of the Colonies to the assumption of the yoke of Empire is more imaginary than real, and it is evident to those in close touch with Canadian and Australasian feeling, that since the late war in South Africa the people of Canada, Australia, and New Zealand have developed to a very considerable extent their sense of both National and Imperial responsibility, and consequently realise in a proportionate degree that the time has arrived when they must look their duty squarely in the face, and must make preparation to take upon themselves their quota of the expense and burden of Imperial Defence. That perfect willingness to do so does exist, there can be no doubt; but some diversity of view and consequent conflict of opinion exists as to how the daughter-lands could best contribute in a manner least irksome to themselves, and at the same time beneficial to them and to the Mother Country. In dealing with the subject, attention may be confined to the Dominion of Canada, the Commonwealth of Australia, and the Colony of New Zealand, as it is upon the white members of the nation that the active duties of defence must principally fall, and it is in the countries named that by far the greater portion of the outlying English-speaking people of British origin reside. To these countries must also attach very great strategical importance, as it is evident that for many years now to come commercial supremacy in the Pacific will be amongst the greatest ambitions of the leading naval and military Powers of the world. For many years past the Pacific has been undergoing continual change as a strategical theatre, and the resultant alteration in our strategical position renders it more than ever imperative that every nerve should be strained to ensure the security of Imperial interests in that quarter; and to this fact both Canada and Australasia are now fully awake.

The South African Colonies, to whom many of the arguments advanced will apply with equal force, and who, when in a thoroughly settled state, will add greatly to what may be termed the "fighting man-power" of the Empire, may for the present be allowed to remain undiscussed, being in a transitory state as regards Government and as regards national and racial tendencies.

The problem in their case will also be complicated by the necessity of considering the presence of black races in numbers exceeding the white.

#### PRESENT COLONIAL CONTRIBUTION TO IMPERIAL DEFENCE.

At present the total contribution to active defence measures made by those portions of the British Dominions under consideration is, if expenditure on local forces and on protected harbours be excepted, wholly naval, and consists only of an annual payment by Australia and New Zealand, amounting to one-half of the annual cost of upkeep of the fleet in Australasian waters, or £240,000. The Commonwealth contributing five-twelfths, or £200,000, and New Zealand one-twelfth, or £40,000.

No definite contribution, either naval or military, has yet been made by Canada.

The only assistance at present received from these three countries for purposes of actual Imperial Defence is a yearly payment of less than a quarter of a million pounds as a provision for the protection of the lives and interests of a total population of upwards of 10,000,000 souls.

#### NECESSITY FOR ORGANISATION OF IMPERIAL ARMY.

As regards Land Forces, without which we are not worthy of the serious consideration of our possible adversaries, the men entrusted with the framing of the strategical policy of the Empire cannot count with the absolute certainty that is necessary to them in the framing of their plans, upon obtaining the services of even a single man from the Colonies in the case of national emergency.

The necessity for an organisation that will enable us to make the most effective use of our great potential power for purposes of mutual defence is daily becoming increasingly apparent. It is probably unnecessary to direct attention to so obvious a point, as all statesmen and soldiers must certainly agree with our greatest modern military historian, the late Colonel G. F. R. Henderson, who, in writing of the Imperial Army in South Africa, remarked upon the incomprehensibility to anyone aware of the rapidity with which war between civilised nations now develops, of the fact that no effort had been made so to organise the Forces of the Empire that each portion might be rapidly mobilised and the whole rapidly assembled, every unit fitting at once into its allotted place. That Colonel Henderson possessed a much keener realisation of Colonial feeling in the matter than is commonly found among men not in intimate touch with the Colonies—and among such must be included most of our leading soldiers and statesmen—is evident from his opinion that "little was needed beyond a mutual understanding between the Home and Colonial authorities as to the extent of the assistance to be provided, and that once it was agreed that time was of the utmost importance, that the administration of the various contingents should be assimilated, that work should be done throughout on the same lines, everything, except the publication of a few rules, might have been left without the smallest misgiving to the Colonials themselves."

He was further of opinion that "the reason why the Imperial Army was unorganised in 1899 was not because organisation was difficult, or because the Colonies were reluctant to commit themselves,

but because the question of Imperial Defence had never been approached from the standpoint of Imperial Strategy."

Upwards of six years have now elapsed since the outbreak of hostilities with the Boer Republics, and so far as the formation of an Imperial Army is concerned, we are practically in the same position as we were at that time.

#### HOME IDEAS OF COLONIAL SENTIMENT.

The practicability of any scheme that might be submitted with the formation of such an Army as its purpose is of course primarily dependent upon Colonial sentiment.

The feeling commonly attributed to the Colonies in the matter by those responsible for the administration of the military system of the Empire may be gleaned from the evidence given by Mr. Brodrick before the Royal Commission on the War in South Africa. He stated that while the excellent spirit that animated the Colonies in the late war was fully recognised, "We cannot press for anything they are not prepared to tender."

These words demand special attention, as they contain the real clue to the reason why the Colonies do not contribute in a greater degree to the Forces upon which the Defence of the Empire depends.

Mr. Brodrick, in remarking that "we cannot press for anything that the Colonies are not prepared to tender," voices a conviction very deeply grounded in the minds of thoughtful people of the United Kingdom, but which must be regarded by many leading Colonists as altogether erroneous, and the root of the whole evil. The weight of opinion in the Colonies is to the effect that any proposals in regard to the matter should emanate from the Mother Country. Her statesmen and strategists alone, who are employed in guiding the destinies of the Empire and its Army, are in a position to appreciate at its true worth the assistance to be derived from the daughter-lands. Colonial statesmen and politicians—still less the Colonial people—cannot realise to the full the vital importance of the question. They may at least be pardoned for failing to appreciate its real magnitude, when none of the real leaders of statecraft and strategy in the homeland have deemed it worth their while to really impress it upon them.

A definite proposal formulated by those statesmen and soldiers whose opinion carries weight in the Colonies, and submitted to the Colonial Governments for the purpose of being placed unreservedly before the people, is the only means by which their feelings can be truly gauged.

An indefinite suggestion such as was submitted to the Colonial Premiers in 1902 in a manner suggestive of diffidence and a fear of irritating the Colonies will never succeed in eliciting the desired response.

It is to be hoped that the formation of a General Staff will result in the organisation at no very distant date of a really Imperial Army, and in order to ensure unity of thought and purpose throughout the Forces of the Empire, and with a view to furthering Imperial Federation for Defence, it is advisable that the "brains of the Army" should contain representatives of Canada, Australia, and New Zealand. These representatives to be either selected officers of the Colonial Forces or officers of the Regular Service thoroughly conversant with

The problem in their case will also be complicated by the necessity of considering the presence of black races in numbers exceeding the white.

#### PRESENT COLONIAL CONTRIBUTION TO IMPERIAL DEFENCE.

At present the total contribution to active defence measures made by those portions of the British Dominions under consideration is, if expenditure on local forces and on protected harbours be excepted, wholly naval, and consists only of an annual payment by Australia and New Zealand, amounting to one-half of the annual cost of upkeep of the fleet in Australasian waters, or £240,000. The Commonwealth contributing five-twelfths, or £200,000, and New Zealand one-twelfth, or £40,000.

No definite contribution, either naval or military, has yet been made by Canada.

The only assistance at present received from these three countries for purposes of actual Imperial Defence is a yearly payment of less than a quarter of a million pounds as a provision for the protection of the lives and interests of a total population of upwards of 10,000,000 souls.

#### NECESSITY FOR ORGANISATION OF IMPERIAL ARMY.

As regards Land Forces, without which we are not worthy of the serious consideration of our possible adversaries, the men entrusted with the framing of the strategical policy of the Empire cannot count with the absolute certainty that is necessary to them in the framing of their plans, upon obtaining the services of even a single man from the Colonies in the case of national emergency.

The necessity for an organisation that will enable us to make the most effective use of our great potential power for purposes of mutual defence is daily becoming increasingly apparent. It is probably unnecessary to direct attention to so obvious a point, as all statesmen and soldiers must certainly agree with our greatest modern military historian, the late Colonel G. F. R. Henderson, who, in writing of the Imperial Army in South Africa, remarked upon the incomprehensibility to anyone aware of the rapidity with which war between civilised nations now develops, of the fact that no effort had been made so to organise the Forces of the Empire that each portion might be rapidly mobilised and the whole rapidly assembled, every unit fitting at once into its allotted place. That Colonel Henderson possessed a much keener realisation of Colonial feeling in the matter than is commonly found among men not in intimate touch with the Colonies—and among such must be included most of our leading soldiers and statesmen—is evident from his opinion that "little was needed beyond a mutual understanding between the Home and Colonial authorities as to the extent of the assistance to be provided, and that once it was agreed that time was of the utmost importance, that the administration of the various contingents should be assimilated, that work should be done throughout on the same lines, everything, except the publication of a few rules, might have been left without the smallest misgiving to the Colonials themselves."

He was further of opinion that "the reason why the Imperial Army was unorganised in 1899 was not because organisation was difficult, or because the Colonies were reluctant to commit themselves,

but because the question of Imperial Defence had never been approached from the standpoint of Imperial Strategy."

Upwards of six years have now elapsed since the outbreak of hostilities with the Boer Republics, and so far as the formation of an Imperial Army is concerned, we are practically in the same position as we were at that time.

#### HOME IDEAS OF COLONIAL SENTIMENT.

The practicability of any scheme that might be submitted with the formation of such an Army as its purpose is of course primarily dependent upon Colonial sentiment.

The feeling commonly attributed to the Colonies in the matter by those responsible for the administration of the military system of the Empire may be gleaned from the evidence given by Mr. Brodrick before the Royal Commission on the War in South Africa. He stated that while the excellent spirit that animated the Colonies in the late war was fully recognised, "We cannot press for anything they are not prepared to tender."

These words demand special attention, as they contain the real clue to the reason why the Colonies do not contribute in a greater degree to the Forces upon which the Defence of the Empire depends.

Mr. Brodrick, in remarking that "we cannot press for anything that the Colonies are not prepared to tender," voices a conviction very deeply grounded in the minds of thoughtful people of the United Kingdom, but which must be regarded by many leading Colonists as altogether erroneous, and the root of the whole evil. The weight of opinion in the Colonies is to the effect that any proposals in regard to the matter should emanate from the Mother Country. Her statesmen and strategists alone, who are employed in guiding the destinies of the Empire and its Army, are in a position to appreciate at its true worth the assistance to be derived from the daughter-lands. Colonial statesmen and politicians—still less the Colonial people—cannot realise to the full the vital importance of the question. They may at least be pardoned for failing to appreciate its real magnitude, when none of the real leaders of statecraft and strategy in the homeland have deemed it worth their while to really impress it upon them.

A definite proposal formulated by those statesmen and soldiers whose opinion carries weight in the Colonies, and submitted to the Colonial Governments for the purpose of being placed unreservedly before the people, is the only means by which their feelings can be truly gauged.

An indefinite suggestion such as was submitted to the Colonial Premiers in 1902 in a manner suggestive of diffidence and a fear of irritating the Colonies will never succeed in eliciting the desired response.

It is to be hoped that the formation of a General Staff will result in the organisation at no very distant date of a really Imperial Army, and in order to ensure unity of thought and purpose throughout the Forces of the Empire, and with a view to furthering Imperial Federation for Defence, it is advisable that the "brains of the Army" should contain representatives of Canada, Australia, and New Zealand. These representatives to be either selected officers of the Colonial Forces or officers of the Regular Service thoroughly conversant with

the conditions prevailing in the Colonies. Arrangements should also be made with Colonial Governments for officers of the General Staff to serve on the Staffs of the local Forces of the Colonies.

The adoption of these suggestions would do much to dispel the mutual ignorance regarding each other that at present prevails in the Home and Colonial Forces, and would also tend to impress upon the Colonies that they, as a portion of the Empire, are quite as much dependent upon the Army for their welfare, as upon the Navy, with which they are already closely associated, for their existence.

The Colonial people have never yet had it clearly and forcibly explained to them that there is a vast difference, from the Imperial military point of view, in framing strategic plans with a knowledge that a force of known strength is available for use, and in framing those plans with only the hazy probability of such a force being obtainable to reckon upon; and the real fault would appear to be that the responsible authorities have hitherto neglected to impress upon these people the Imperial requirements in the matter of Defence. It is folly to expect the Colonies to assist when those who know—or ought to know—precisely what is wanted are afraid to ask for it.

#### MOST VALUABLE FORM OF COLONIAL CONTRIBUTION.

Obviously one of the most, if not quite the most, valuable contributions that it would be possible for the Colonies to make to the Defence of the Empire would be the provision of an Imperial Service Army Reserve, to be placed from the date of formation at the disposal of the Imperial Government for use in case of national emergency.

Among the principal weaknesses of our Army as at present constituted is the total inadequacy, in point of numbers, of the most expensive arm of the Service—the Cavalry.

The very finest material for the formation of a body of Light Horsemen exists in the Colonies, and the largest and most efficient reserve of mounted troops—more than sufficient to replace existing glaring deficiencies—could be obtained from those countries with ease, and at comparatively trifling expense.

Before proceeding to discuss in detail the many points that will present themselves during consideration of the question of the formation of an Imperial Service Reserve it will be well to first endeavour to obtain a fairly just estimation of the potentialities and “man-power” of the great branches of the Empire now being dealt with.

In dealing with the question of population—upon which the amount of co-operation must principally depend—even apart from considerations of trade, revenue, and individual wealth, it will be advisable to differentiate between the people inhabiting the town and those living in the country districts, with a view of emphasising the existence of a very large number of—from the nature of their vocations—already partially-trained Irregular Horse. At the same time, it is well to remember that a considerable portion of the urban population is of a nomadic nature, and is at certain seasons largely engaged in pastoral pursuits, and can furnish a large number of horsemen, almost, if not quite, as capable as those of the suburban and bush districts.

## POPULATION OF CANADA.

The population of the Dominion of Canada for the year ending 30th June, 1903, was estimated to have been 5,528,847; 51·23 per cent. of this number were males.

The "Statistical Year Book of Canada" contains no definite information as to the number of males of what may be termed "the active military ages," or between 20 and 40 years of age; and for illustrative purposes it is unnecessary to go into the figures with exactness, but as the total population considerably exceeds in strength that of Australia, the number of men between the limits of years stated may safely be estimated at not less than 700,000. Of the total population, 72·8 per cent. is rural; classing as urban those people inhabiting towns having a population of not less than 4,000 souls. The number of males in the rural districts is probably largely in excess of the number of females.

## POPULATION OF AUSTRALASIA.

With regard to the raw material of Australasia, the total population of the Commonwealth and New Zealand amounted on the 31st December, 1903, to 4,759,495, exclusive of aborigines and nomadic half-casts.

The rural population amounts, it may be said, to approximately 70 per cent. of the whole. The total number of men in the Commonwealth liable to be called out for Home Defence—being between 18 and 50 years of age—amounted in 1902 to 1,075,000. At the census of 1901 the number between the ages of 20 and 40 years was ascertained to have been 644,500, and probably exceeds that number to an appreciable extent at the present date.

## GENERAL POPULATION STATISTICS.

A certain percentage of the population of the Colonies is, of course, of foreign birth or extraction. This percentage is, however, small, 94·8 per cent. of the inhabitants of Canada being of British or Canadian origin, 30·70 per cent. being of French descent.

Of the Australasian population, 95 per cent. is of British origin. Only about 28·65 per cent. of the male population of the Commonwealth is married, whilst 63·57 is given as the percentage of married males in the Dominion of Canada for 1901.

It may therefore be assumed with safety that there is in Canada and Australasia raw material amounting approximately to about 1½ millions of healthy able-bodied men of from 20 to 40 years of age; 900,500 of them good or passably good horsemen, 400,000 of the number unmarried and of a class that at home has ceased to exist—if indeed it ever did exist—as a recruiting ground for the Regular Army.

## MILITARY SYSTEMS OF THE COLONIES.

Having demonstrated the existence in our Colonial Empire of a vast potential fighting power, it next becomes necessary to inquire what steps have been taken by the Colonies in question to infuse

into the mass the desired sense of Imperial responsibility, and to train it in such manner as to render it reasonably capable of defending even its own firesides.

From the first it must be realised that although the Dominion of Canada, the Commonwealth of Australia, and the Colony of New Zealand have lately been engaged in improving their Militia systems, all that has been done is primarily with a view to purely Home Defence. No member of these Militia Forces can be called upon to serve beyond the boundaries of his own country, unless, as the emergency arises, he volunteers to do so.

It is advisable to acquire some knowledge of the Colonial military systems and of the organisation and strength of the various forces, as it is principally from the existing machinery that any expansion in the desired direction must be expected.

It is unnecessary to enter into details of the constitution, organisation, etc., of these systems further than to provide sufficient *data* to enable those possessed of but a superficial knowledge of the matter to realise what amount of material can be relied upon as a nucleus and for the leavening of the mass, or from which a valuable force for Imperial use might be drawn.

The systems of both Canada and Australia have lately undergone complete reconstruction, and the very analogous organisations now in operation in both countries have, to quote Sir Edward Hutton, by whom one of the systems was brought into being, "been modelled with a view to meeting the modern requirements of highly democratic self-governing communities, and bid fair to be the best solution yet suggested of the problem of National Defence under an Anglo-Saxon form of Constitutional Government."

#### CANADIAN MILITIA SYSTEM.

As regards Canada, the Department of Militia and Defence is presided over by a Minister, assisted by a Deputy Minister.

The Militia Act of 1904 provides for the command and administration of the Militia and Defence Forces by a Militia Council, and for their inspection by an Inspecting Staff, both being analogous to the Army Council and Department of the Inspector-General of the Forces respectively.

The Militia Force of the Dominion consists of three portions:—

- The Permanent Corps.
- The Active Militia.
- The Reserve Militia.

The latter does not at present exist in an organised form, being only the untrained male population between the ages of 18 and 60 years, all of whom, if British subjects, and unless exempt or disqualified by law, are liable for service, and are for this purpose divided into four classes according to age and conjugal condition.

The general principle upon which the reorganisation of the Militia has been carried out is such as to ensure a strength of about 100,000 men being available as a "first line" of defence, capable of expansion by levies from the population of the Dominion.

The Military Members of the Council state that they would prefer that the Peace and War Establishments should be such, that an addition of one-third to the former would complete augmentation to the latter, but are prepared to agree that a somewhat less proportion might be accepted as a commencement, and have therefore framed such plans as provide for 60,000 and 100,000 men for the respective establishments.

The Permanent Force being the source to which the Active Militia must look for its training and education, is, as far as possible, so allotted that the squadrons of cavalry, batteries and companies of artillery, and companies of infantry, of which it is composed, shall each act as a School of Military Instruction.

The new undertaking of garrisoning Halifax and Esquimalt has necessitated an increase in the authorised establishment of the Permanent Force from 2,000 to 5,000 men.

The present organisation of the Active Militia provides 60 squadrons of mounted men, 12 batteries of Field Artillery, 6 regiments and 1 company of Garrison Artillery, 4 companies of Engineers, 654 companies of Infantry, 8 companies of Army Service Corps, 8 Field Hospital Companies, and 9 Bearer Companies, in addition to which there is a Signalling Corps; whilst a corps worthy of special mention is the Guides, which provides, on War Establishment, 500 officers and Guides trained for Intelligence work.

The strength of the mounted troops at Peace Establishment is 5,106 of all ranks, with 4,764 horses, the War Establishment being 7,928 officers, non-commissioned officers and men, with 8,922 horses.

Of the artillery, 2,013 of all ranks, with 1,286 horses, comprise the Peace Establishment of the Field Branch, which for war is augmented to 3,470 of all ranks, with 2,848 horses, while the garrison branch allotment is 2,346 of all ranks, with 328 horses, and 4,039 of all ranks, with 517 horses, for peace and war respectively.

The infantry strength amounts on Peace Establishment to 34,257 officers, non-commissioned officers and men; and on War Establishment to 86,401 of all ranks, with 3,656 horses.

The various other units and Departmental Corps serve to complete the strength of the Active Militia Force to—in round numbers—5,000 officers, and 41,000 rank and file, with 7,600 horses when on Peace Establishment; and to 5,000 officers and 100,000 rank and file with 17,500 horses, when on War Establishment.

As auxiliaries to the Militia Forces there are Rifle Clubs and Cadet Corps. The number of members of the first-named taking an active interest in shooting during the year 1903 is stated to have been about 14,000, and the number of clubs had increased by about fifty per cent. during the year.

The cadet organisation, which is very comprehensive, consists of the customary two classes of corps:—School Cadets and Senior Cadets.

#### COMMONWEALTH MILITARY SYSTEM.

Turning now to Australia, where resides the majority of outlying British people of purely British extraction, it will be observed that the military system lately adopted by the Commonwealth is based chiefly upon two principles as recommended by Sir Edward

Hutton to the Commonwealth Minister of Defence; these principles being: *a.* The Defence of Australian soil; *b.* The Defence of Australian interests wherever threatened.

The first necessitates the maintenance of "Garrison troops" to protect points of strategical and commercial importance; as well as an organised Mobile Field Force for the purpose of repelling invasion.

The second depends upon sea-power backed by a Field Force, and is worthy of particular note as the acknowledgment by the people of the Commonwealth of the existence of a principle, from the development of which, it is not too much to hope that an additional link in the chain of Imperial Defence may be forged. All that is now necessary is a thorough appreciation by the Australian people of the undeniable fact that the interests of the Empire, in whole or in part, are in the truest sense "the interests of Australia" as an integral part of that Empire.

The system consists—to quote Sir Edward Hutton—of a framework of an elastic nature, and capable of considerable expansion to provide for the reception of additional fighting material when the emergency arises.

The defence force is administered by the Minister of Defence, who is assisted by a Council of Defence, over which he presides.

This Council is the highest Defence Authority, and has as members, the Commonwealth Treasurer, Inspector-General of Military Forces, Naval Director, Chief of Intelligence, and such consultative members as may from time to time be summoned by the President.

It deals only with questions of Defence Policy.

The administration of the Land Forces is carried out by "The Military Board," modelled somewhat on the lines of the Army Council. It is interesting to note that the Naval Defence Forces are administered by a similar body—"The Naval Board."

The inspection of the Land Forces is carried out by the Inspector-General, and that of the Naval Forces by the Director of those Forces.

The Australian Military System provides, as is concisely stated in the Second Annual Report of Sir Edward Hutton, of:—

Firstly:—"A Permanent Cadre Force, which includes an Administrative and Instructional Staff, the Royal Australian Artillery, and small detachments of Engineers, Army Medical Corps, Army Service Corps, etc."

"The non-commissioned officers and men of the artillery, and Departmental Corps, are enlisted for a limited period of continuous service, in order to partially provide the garrison for certain naval strategical positions and other defended ports, as well as for technical duties, maintenance of forts, guns, stores, and equipment, and for instructional purposes with the Militia and Volunteers. The senior officers are the principal commanders, administrative staff, and instructors during peace, and will be the chief leaders and staff officers in war. The *personnel* will also form a much needed and indispensable stiffening in time of war."

Secondly:—"A Field Force, which is formed of six brigades of light horse and three brigades of infantry, who will, on a national emergency, undertake active operations in the field for the defence of the Commonwealth as a whole. These troops are Militia, and are divided among the six States on a population basis."

Thirdly:—"A Garrison Force, which provides the necessary garrisons, and is a small District Reserve for the local defence of each of the six States. The troops comprising this Force are mainly Volunteers, and unpaid. It is proposed, however, that all the light horse, artillery, engineers, and departments allotted to garrison service, who are not already Militia, shall be, by reason of the special character of their Military Service, Militia, and be paid accordingly."

The percentage of non-efficients in these forces is declared by reliable authority to amount to at present as much as 20 per cent. of the total strength.

This is probably the result of the sweeping changes that have taken place in the organisation, and from which the forces have not yet sufficiently recovered to resume their normal condition.

In addition to the Permanent and Militia Forces, a very extensive system of Rifle Clubs has been inaugurated, and is embodied in the Military System of the Commonwealth, and is receiving a very strong measure of support.

The Defence Act provides that the Reserve Forces shall consist of the members of the Rifle Clubs—who, under peace conditions, cannot be both members of a Rifle Club and a Militia Unit—and of persons who, having served in the Active Forces, or as is prescribed, are enrolled as members of the Reserve.

The Act also authorises the establishment and maintenance of Cadet Corps of the school and senior description.

#### AUSTRALIAN ESTABLISHMENTS.

As regards establishments of the Field Force and Garrison troops, that of the latter, comprising all arms, provides a strength of 11,752 of all ranks with 26 guns—exclusive of those allotted to fixed defences—for both peace and war.

The Peace Establishment of the Field Force is approximately half the strength of the War Establishment; the former providing 6,445 light horsemen and 24 guns, 7,377 infantry and 36 guns, together with the staff of three Field Companies of Engineers, while the higher Establishment provides 12,996 light horsemen and 36 guns, 14,733 infantry and 40 guns, with the engineer staff, considerably increased.

The total strength is therefore 13,831 all ranks, with 60 guns when at peace, and 27,753 all ranks with 84 guns when at war.

The gross total of Field Force and Garrison troops, including the Ordnance Department, is 25,700, and 39,600 at the respective establishments.

Only about 700 mounted troops are allotted to the Garrison Force; the total number of partially trained light horsemen being therefore approximately 7,000.

On 1st May, 1904, 344 officers, 2,782 other ranks, were required to complete to Peace Establishment the Permanent Forces, Militia and Volunteers. 620 officers were borne on the Reserve and Unattached List.

The number of cadets amounted to 211 officers, 9,102 other ranks, or 26 officers, 2,042 rank and file below establishment.

The number of members of Rifle Clubs was given as 28,721.

The total strength Reserve of Officers' Unattached List, Cadet and Rifle Clubs was therefore 831 officers, 37,823 other ranks.

The grand total of the forces embraced by the Commonwealth Military System amounted, on the date given, to 2,371 officers, and 59,147 other ranks.

It will be noted that the number of officers on the Reserve and Unattached List—many of whom served in South Africa—is 276 in excess of the number required to complete establishment of commissioned ranks of the Permanent Militia and Volunteer Forces.

#### NEW ZEALAND DEFENCE SYSTEM.

The Defence System of New Zealand comprises a Permanent Force, a Militia Force, Volunteers, Rifle Clubs and Cadet Corps.

The first-named consists of Garrison Artillery and Engineers, amounting in number to 15 officers and 334 other ranks.

The Militia—so-called—consists of all the male inhabitants of the Colony, between the ages of 17 and 55 not specially exempt. The compulsory clauses of the Act, with regard to the force are, however, at present in abeyance, and the Militia is merely a potentiality.

The force upon which the country mainly depends for home defence is the Volunteers, and the efficiency of the component units is such as to largely refute any arguments advocating the abolition of a force of this class as inefficient for the purpose.

The Volunteers comprise mounted rifles, field and garrison artillery, engineers, sub-marine miners, cycle corps, bearer corps, and infantry. Volunteer Medical Corps and Veterinary Corps are in process of formation.

The various units are in a satisfactory state as regards efficiency, but the force as a whole, owing to the absence of a complete staff, organisation, and Department Corps is not in a fit condition to take part in any but minor operations even for the defence of the Colony itself.

The Establishment, which is identical in all respects for both peace and war, is at present 750 officers and 15,202 other ranks.

The actual strength is 741 officers, 14,440 other ranks—a shortage of only 9 officers and 762 men.

The Establishment of mounted riflemen is 288 officers and 5,760 other ranks.

In the case of New Zealand, the proportion of trained or partly trained men to the number capable of bearing arms is, roughly, 10·2 per cent.—a higher proportion than in any other part of the Empire.

The question of Rifle Clubs has lately received considerable attention at the hands of the Government, the result being the formulation of a comprehensive scheme for the organisation of these institutions.

The Cadet Corps movement has in the Colony been carried to a point unequalled in any other portion of the British Dominions, and the number of Cadets has increased from 2,800 on 30th June, 1904, to approximately 14,000 at the present time.

The administration of the Defence Department is in the hands of a Minister of Defence.

The Commandant of the Forces is an officer of the Regular Army, and to him are entrusted the duties performed in the Dominion and Commonwealth by the respective Militia and Defence Councils, Military Boards, and Inspector-Generals.

#### GOOD AND BAD POINTS OF RESPECTIVE ADMINISTRATIONS AND FORCES.

It is advisable that attention should be directed to several important points omitted from the foregoing reference to the respective systems.

It is open to serious question whether Canada and Australia, by adopting the Army Council as a model upon which to form similar bodies for the administration and command of their forces, have done that which will result in the greatest possible degree of efficiency, for these bodies are formed in some part of members of doubtful military capacity and but ill-qualified for their task.

The forces of Canada, Australia, and New Zealand suffer severely, even during peace, from the lack of competent Staff officers.

The Commonwealth and Dominion in the formation of their Rifle Clubs have been careful to lay down such terms and conditions for membership as can alone render these institutions valuable as an integer in the Defence Forces. Mere ability to shoot, unaccompanied by any semblance of discipline, is of little value.

In the case of Canada, each club is to have a commanding officer and adjutant, both of whom are at all times subject to military law.

In case of emergency, members of the clubs are required to become members of the Militia, coming under the orders of the officer commanding the district and being liable to drill, training, and discipline.

The Rifle Clubs of the Commonwealth are embodied in the Military System. A condition of membership is an undertaking to serve as a Reserve to the existing corps of the military forces in time of war, and it is hoped that at an early date arrangements will be made for perfecting the organisation of the clubs and classifying their members so as to form an organised Reserve to provide the necessary augmentation from peace to war establishments of the Militia units.

Steps are also being taken by the New Zealand authorities with the same end in view.

In all the countries mentioned the conditions for efficiency are such as to justify the belief that the clubs will eventually form a valuable auxiliary for the purposes of Home Defence.

In each country the cadet movement is recognised as affording the germ of a system of universal training.

In New Zealand it is being developed with much vigour.

In Australia it is proposed that the Cadet Corps shall be organised under the military system of the country in conjunction with the Education Departments of States, as is done in New Zealand. It is, however, much to be regretted that the full development of the movement is at present retarded by lack of funds.

In Canada the Minister of Militia has lately expressed his intention of taking steps to ensure the further expansion of the system.

It is unnecessary to enter into details of the amount of training received by, or the degree of efficiency demanded of, the members of the Militia and Volunteer Forces of Canada, Australia, and New

Zealand; it will be sufficient to remark that both are such as to ensure any willing man with reasonable aptitude acquiring such knowledge as to render him a valuable addition to any force that might be raised for service over-seas in time of war.

The question of constitution, administration, etc., of the various Colonial Forces may appear to have been traversed at unnecessary length; but such lengthy treatment is justifiable in view of the very prevalent ignorance of the Colonies and of Colonial questions.

It is worthy of every emphasis that the military systems under review provide a strength of 80,000 partially trained officers and men, capable of augmentation in time of war—without serious strain—to at least 120,000 as a very low estimate, by the addition of Reserve Militia, Rifle Clubs, and Cadets.

#### TOTAL MOUNTED TROOPS.

The total number of mounted troops provided by the three countries is 17,600 on Peace Establishment, and 26,972 on War Establishment.

#### MEN WHO SERVED IN SOUTH AFRICA.

In addition to the organised military forces, there exists in the Colonies an asset of unknown quantity but undoubtedly of such a nature as would exert a very stimulating influence on the formation of an Imperial Service Reserve. This asset consists of the large number of "over-sea Colonials" who served in the late South African war, the majority of whom returned to, and are now residing in, the countries from which they were drawn.

The total number of such despatched to South Africa in the various contingents is officially stated to have been 1,391 officers and 27,699 non-commissioned officers and men, or a total of 29,090 of all ranks.

Canada supplied 7,368 officers and men, 1,238 of whom were raised for the South African Constabulary, and are not included in the official figures.

Australia sent 16,632, and New Zealand 6,343.

In connection with the last-named Colony, it is interesting to note, *en passant*, that, calculating on a population basis, she supplied a larger proportion of men than any other portion of the British Empire. The number of men that the United Kingdom would have to send, calculated from the same proportion, would amount to 340,284.

Only a very small percentage of the men who served in South Africa are now elsewhere than in the countries which supplied them; and even if a proportion of them have been reckoned more than once—having served in more than one contingent—there must still remain a very considerable number whose influence cannot but be of inestimable value in assisting to weld the bonds of Empire.

#### PREVIOUS PROPOSALS FOR AN IMPERIAL SERVICE RESERVE.

Having directed attention to the generally unrealised size of the population of the Colonies, to their "man-power," to their com-

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paratively insignificant contribution to Imperial Defence, and to the efficiency of their Home Defence system, it will be advisable to consider such proposals as have from time to time been submitted in connection with the provision of Colonial troops for Imperial service in time of war.

Of course the one of greatest importance and worthy of especial note as the first definite acknowledgment by a Colonial Government of the main principle involved in the question is the motion submitted to the Colonial Conference in 1902 by the Government of New Zealand:—

“That it is desirable to have an Imperial Reserve Force formed in each of His Majesty's Dominions over the seas for service in case of emergency outside the Dominion or Colony in which such Reserve is formed. The limit within which such Reserve Force may be employed outside the Colony wherein it is raised to be defined by the Imperial and Colonial Governments at the time such Reserve is formed, and to be in accordance with any law in force for the time being respecting the same. The cost of maintaining and equipping such Imperial Service Reserve to be defrayed in such proportion as may be agreed upon between the Imperial and Colonial Governments.”

The opinions expressed by the several Prime Ministers are of much interest, as not only were diametrically opposite views of the nature of the duties of the Colonies to the Empire expressed by the representatives of the different countries; but the various grounds of objection may reasonably be regarded as embracing every form of sentimental, political, and constitutional objection that can within reason be conceived; and should it be possible to successfully combat these objections, and to demonstrate their emanation from faulty conception, no further argument need be produced in support of the justness of even an absolute demand that the Colonies should now take upon their shoulders an additional share of the heavy burden at present borne by the tax-payer of the Motherland.

#### CANADIAN OBJECTION.

The objections contained in the memorandum of the Canadian Ministers to the Conference may first be considered.

They submitted that “the acceptance of the proposal would entail an important departure from the principles of Colonial Self-Government.”

Why this should be so they omitted to state, and it is difficult to conceive an argument not easily refutable in support of their opinion. The vast alterations that have taken place in the strategical situation of the Empire may surely be admitted to have had a modifying influence upon, what are by these Colonial statesmen considered to be “the principles of Colonial Self-Government.”

The work done by the Canadian Militia Department in sending contingents to South Africa is cited as proof of reasonable efficiency, and the despatch of the first contingent of 1,000 men drawn—to use

the words of the ministers—"from every section of Canada, embraced within 4,000 miles of territory lying between the Atlantic and Pacific Oceans, which was organised, fully equipped, and embarked within a period of 14 days," is produced as an illustration.

Under the conditions existing at the time the performance may well be admitted as proof of considerable ability on the part of those called upon to organise the force; but the mobilisation of 1,000 infantry in two weeks as the result of the concentrated effort of the military system of a country with a population exceeding 5,000,000 souls is no proof of the efficiency of that system.

Moreover, Major-General O'Grady-Haly, who commanded the Canadian Forces at that time, has stated that the organisation of this contingent was unsatisfactory, as the clothing, etc., had to be made when required. He also stated, when examined by the S.A. War Commission, that after disembarkation in South Africa, "nine weeks were spent at Belmont getting the regiment into shape."

As time went on the inadequacy of the system became still more pronounced; the preparations for the second contingent, the 1st Mounted Rifles, extending over two months. Fifteen days were taken from the time the order was given to recruit Strathcona's Horse until their concentration was complete—and they were not embarked until the forty-first day.

Two months were occupied in mobilising, equipping, and embarking the third Contingent; and in every case the manufacture of equipment was necessary.

A mounted force of the strength of either of these contingents if thoroughly organised, and all necessary arrangements regarding clothing, equipment, ship's fittings, and the thousand and one necessary details arranged for in time of peace should be on board ship, and be absolutely complete in every respect as a fighting unit in less than a week from the receipt of the order to mobilise; and a country with the railway service of the Dominion of Canada, and with her shipping facilities, should, under a reasonably efficient system, ensuring adequate provision, being made under normal conditions, have but little difficulty in embarking in the same time a thoroughly complete force of 10,000 men.

The equipment and despatch of 8,400 men during a period extending over 2½ years, the organisation and embarkation of each separate portion of which occupied from 14 to 40 days, surely cannot be accepted as proof of the existence of a system satisfying the needs of Imperial Defence.

In fact, it cannot be admitted that the grounds upon which the Canadian Ministers dissented from the proposals of the First Lord of the Admiralty and the Secretary of State for War justified such action as can only tend rather to the disintegration than to the federation of the Empire.

Their views must, moreover, be regarded by a large number of Colonials as opposed to the traditions arising from the last half century of Colonial sentiment, and it is a matter for regret that the Canadian Minister for Defence in the Dominion House of Commons on 10th July, 1905, stated that "the Administration still holds the view that it took at that time,"

## AUSTRALIAN OBJECTIONS.

The papers relating to the Conference of 1902 contain no statement by the Commonwealth Premier setting forth the actual grounds of the objection of Australia to the proposals for an Imperial Service Reserve, with the exception of the fear expressed that the "formation of such a force would be calculated to impede the general improvement in training and organisation of the Defence Forces, and consequently, their ability to render effective help if it should be required."

There would appear to have been a common dread that an Imperial Service Force and the forces for Home Defence, would not work side by side with the harmony necessary to ensure efficiency. Why they should not do so is a question to which it would be difficult to give a satisfactory answer, as until the actual experiment has been tried, it is obvious that no definite and conclusive objection can be sustained.

Sir Edmund Barton also supported the contention of the Canadian Ministers that the proposal was "objectionable in principle as derogating from the powers of self-government enjoyed by the Colonies."

That opinion in this respect has been somewhat modified is evident from the acquiescence of the Federal Parliament in Sir Edward Hutton's proposal, and their acceptance of the system framed by him, one of the primary principles of which is based upon the fact that "Australian interests cannot be assured by the Defence alone of Australian soil," and there is reason to hope that the development of the Imperial sentiment in the Commonwealth has been such that any proposal that might be submitted at the coming Conference will receive more favourable consideration than was accorded the proposal of 1902. However, having regard to the principal objection raised by Canada and Australia, it is advisable that any future proposal submitted to the Colonial peoples or their representatives, should be entirely free from any suspicion of Parliamentary or political influence. Such being the case the framing and submission of the proposal should be the work of the General Staff of the Army, for it would then be fully realised that it emanated from minds whose work was known to be of a truly Imperial character, and who were uninfluenced by ulterior motives.

No objection on the grounds of interference with the principles of Colonial Self-Government would then be tenable.

## OPINION OF NEW ZEALAND.

Mr. Seddon, on behalf of the people of New Zealand, expressed his complete willingness to adopt the proposal submitted to the Conference, and his action met with the almost unanimous approval of the Parliament and people.

He was of opinion that 8,000 men of the existing Volunteer forces might reasonably be expected to enroll in the proposed Reserve, and his very intimate touch with the people of the country, both in his early days on the "diggings," and during his later brilliant political career, together with the knowledge acquired in his official

capacity as Minister of Defence for the Colony, should entitle his opinion to carry more weight than any yet expressed even by such competent authorities as Major-General Sir George French and other officers who have held high command in the Colonies, and who, with few exceptions, favour the scheme and believe it to be perfectly feasible.

The Premier of New Zealand declared that there is little doubt that the number estimated by him would be reached without difficulty. He proposed that a capitation grant of £5 per capita should be paid, to which would be added the pay during the time in camp for training, say another £5 per head; and assuming that the men of the Commonwealth would come forward in like proportion, he estimated that the scheme outlined by him would produce a Reserve Force of at least 50,000 men, at a total annual cost of £1,000,000.

Mr. Seddon is supported in his belief that the formation of an Imperial Service Reserve would find ready favour with the Colonial people by Major-General Sir G. A. French, who may be said to possess an unique and unparalleled amount of Colonial experience, acquired during a period of upwards of 20 years' service with the Military Forces of the Colonies.

He submitted to the Premier of New South Wales in May, 1900, the outlines of a scheme under which he proposed that use should be made for Imperial purposes of Australia's great potential reserve of "mounted men." He suggested a war reserve, of, say, 10,000 men, passed through the ranks of the Defence Forces, paid when on active service, at the same rate as the Australian Permanent Forces, and during peace, to receive a retaining fee of £8 per annum for privates of infantry, and £12 per annum for troopers of mounted corps with horses and saddlery fit for service; the requirements for efficiency to involve an annual course of training and musketry.

He proposed that the reserve pay, and pay when on active service, should be paid by the Imperial Government, and estimated the approximate cost per annum of 10,000 men to be £100,000, which agrees with the estimate of the Prime Minister of New Zealand.

#### WAR OFFICE MEMORANDUM OF 1902.

The War Office submitted to the last Colonial Conference a memorandum by Lieut.-Colonel E. A. Altham, C.M.G., late A.Q.M.G. at Army Headquarters, on the question of the "organisation of Colonial troops for Imperial Service."

The scheme propounded by this officer contemplated the organisation of a force of a total strength of 16,500, Australia supplying two mounted brigades and one infantry brigade, in all, 9,000 men; New Zealand to furnish one mounted brigade and two infantry battalions, strength 4,500 men. Canada to provide one brigade field artillery and one infantry brigade, or 3,000 men.

This proposal, being an official document, of which criticism is not permissible, was objected to by the Commonwealth and Dominion representatives on the same grounds as those upon which they dissented from the motion submitted by Mr. Seddon.

## ASSESSMENT OF COLONIAL CONTRIBUTION.

In submitting anything approaching a definite proposal for the organisation of a Colonial force for Imperial Service, the first difficulty to be overcome is the assessment on an equitable basis of the amount of contribution to be rendered by each Federation or Colony.

In the case of Canada it may be argued that her strategical situation by reason of her land frontier, is more critical than that of either Australia or New Zealand, and that by relieving the Mother Country of the task of garrisoning Halifax and Esquimalt, and by the reorganisation of her Militia system she has reason to claim exemption from further contribution.

However, the Commonwealth has lately incurred considerable expenditure in reorganising her system, while her contribution to the Navy has been considerably increased; as has also that of New Zealand, whose partially trained forces are larger in proportion to the strength of the population than are the military forces of the United Kingdom, of Australia, or of Canada. It may, therefore, be assumed that "honours are easy," and that each of the Colonies under consideration stand on very much the same footing as regards their liability in the matter.

Presuming that Canada, Australia, and New Zealand, in maintaining their various forces at their present strength, are basing such strength upon what they each consider to be their proportionate responsibility, it is reasonable to accept as the desired equitable basis upon which to assess the number of men to be contributed by each country in question to an Imperial Reserve Force, the suggestion of Mr. Brodrick to the Colonial Premiers that "out of the very large numbers of men who are only trained in some degree in the Colonies, a number, even if only one in four, must be specially trained and held in readiness for national emergency."

## PROPOSED STRENGTH OF RESERVE.

A force equal in strength to one fourth of the total combined Peace Establishments of these countries—and such is the proposition—would amount to at least 20,000 men, Canada contributing 10,300—being 25 per cent. of her forces, exclusive of, say, 5,000 permanent Militia; Australia furnishing, say, 6,400; and New Zealand 3,500.

A contribution amounting to one man in four of their mounted forces would provide a strength of 4,500 men, or about the equivalent of 9 regiments of Regular cavalry at war strength; a force sufficient to increase by 30 per cent. the aggregate total of the entire cavalry of the Line at War Establishment, which is approximately 15,000 men.

A force of the strength proposed is suggested merely as an illustration, and could be raised with perfect ease, although, perhaps, not in the exact proportion stated, and would serve as a keystone around which to build up a powerful Imperial Service Legion, as the necessity for such a force became increasingly apparent.

## COLONIAL SENTIMENT.

## NEW ZEALAND.

The very first consideration affecting the formation of any organised body of Colonial troops for Imperial Service is, of course, the question of Colonial sentiment—particularly the sentiment of that class of the manhood whose services it is hoped to secure.

Taking, firstly, the Colony of New Zealand, in which it must be admitted that the truly Imperial spirit has developed in a most pronounced manner, we have the evidence of Mr. Seddon to the effect that a force of 10,000 men—including 2,000 of that fine fighting race, the Maori—might reasonably be expected to enroll.

Presumably, then, a force of such strength as was suggested by the Secretary of State for War could be raised with perfect ease during peace, for the purpose of serving anywhere within or without the King's Dominions in time of war.

The enthusiastic patriotism so much in evidence during the South African trouble, is very much more inherent in the New Zealand people than anyone not in close touch with them can possibly realise.

Many of the flower of the manhood of the country who at present belong to no force, and who consider the Militia and Volunteers but an empty show, would eagerly join the ranks of any force which they knew would actually proceed on active service in time of emergency.

At the time of the outbreak of hostilities in South Africa, bushmen, stockmen, shepherds, and others, might repeatedly have been heard to express surprise that no attempt had ever been made during peace to organise a force of this nature, and the majority declared their willingness to offer their services under those conditions.

New Zealand opinion at the present time is strongly in favour of a decided effort being made to organise an Imperial Service Reserve, the opinion being very pronounced among those who served during the South African War, a very large proportion of whom could be safely relied upon to form the nucleus of the force. The value of the service that these men might render to the Empire is inestimable, and every effort should be made to utilise them while still in the prime of life. Their presence in the ranks would encourage many of the youth of the country to join the Force, and they would also be of great value in imparting such training as only those with actual experience of war are qualified to do.

Many of the 14,000 boys now undergoing training in the Cadet Corps of the Colony would gladly enroll on reaching such age as might be prescribed; for each school flies the Union Jack, and the children are taught to venerate it as the symbol of Imperial unity from the very day that they are first able to list their alphabet.

## AUSTRALIA.

To the Commonwealth is due the credit of taking what is perhaps the most decisive step yet essayed by any of the great Colonies towards the ultimate solution of the problem of Imperial Defence; for on 11th November, 1905, the Federal Premier telegraphed to the Secretary of the Imperial Defence Committee as follows:—

“The Government of Australia desires to submit to Parliament a general scheme for the defence of the ports of the

Commonwealth, adapted to any attacking force which may be reasonably expected, and including, first, the selection of the ports in need of defence; secondly, a standard of defence for each port; thirdly, the local naval defence of such ports; fourthly, the scheme of defence to be harmonious while capable of being carried out by annual votes, the works to be undertaken in order of relative importance."

On 24th November, Mr. Lyttelton replied:—

"The Committee gladly consents to undertake the preparation of a general scheme of local Australian defence, and the work will be taken in hand as soon as possible."

The significance of the action of the Australian Government is very great, and it is worthy of remark by the way that the existence of such a body as the Imperial Defence Committee alone enabled it to be taken. To no other office or department could the task have been entrusted.

As regards the sentiment of the masses, no better evidence of the feeling of the people of federated Australia could possibly be demanded than the almost universal chorus of approval with which the country has greeted the formation of the Australasian Defence League; an organisation formed on a strictly non-party basis with the object of taking such measures as may be necessary to secure universal training—military or naval—of the boyhood and manhood of Australasia for the purpose of National Defence; such training to be on the lines of the Swiss system, modified to suit local requirements.

A second and equally important object of the league is to take such steps as will secure the provision of an adequate and effective system of National Defence. It has been claimed that the league "has struck a higher note than has hitherto been heard in the Commonwealth Parliament," and no better augury for its success could possibly exist than the very conclusive evidence that it is supported by all schools of thought in Australia—political and otherwise.

Prominent amongst its supporters may be noticed Sir Normand McLaurin, Chancellor of the University, Sir Julian Salomons, K.C., the Hon. W. M. Hughes, M.P., who was Minister for External Affairs in the now defunct Labour Cabinet, Sir William McMillan, an uncompromising opponent of the Labour party, Mr. Holman, a State Labour representative, Mr. McCay, Minister for Defence in the late Reid Ministry; whilst it is most noticeable that amongst the most active supporters of the movement is Mr. Watson, the leader of the Federal Labour Party.

Special interest attaches to the whole-hearted support accorded by the Labour leaders, as not only are they one of the ruling factors in the Government, but they may be said to hold on most questions ultra-democratic views, and were, during Sir Edmund Barton's term of office, strongly opposed to what they considered to be the excessive Defence expenditure.

It is also to be remembered that they are the principal Parliamentary representatives of the social class from which the backbone of an Imperial Service Reserve would be formed. The action of the Labour members constitutes a most important step in view of the prejudice against any form of militarism so deeply rooted in democratic communities, and it is to be sincerely hoped that it will do much to remove the opinion—somewhat prevalent in the United

Kingdom—that the general inclination on the part of the Colonies is to permit the Home tax-payer to bear the whole weight of the burden, while the Colonial reaps the benefit.

The message of His Majesty the King to the people of Australasia recently conveyed to them by the Admiral Commanding in Australian waters, and in which His Majesty urged them to do everything in their power for their own protection, will stimulate interest in Defence matters to an extent that no other means could possibly succeed in doing.

Moreover, it is now very generally recognised by the Australian people that their duty to the Empire does not end with the protection of their own hearths, and it is realised by them that their military system should be capable of supplying an expeditionary force for service outside the Commonwealth, and a definite proposal to that effect would most certainly be well received.

#### CANADIAN OPINION.

As regards Canada, her population, whether of French or of British origin, have given ample evidence of their staunchness in the cause of the Empire, and their sentiments are probably much the same as those of the people of Australasia.

#### PROVISION OF OFFICERS AND NON-COMMISSIONED OFFICERS.

The men being available in sufficient numbers, the next point to be considered is the provision of capable and efficient officers and non-commissioned officers. This was, perhaps, the greatest difficulty with which the Colonies had to deal during the formation of their contingents for service in South Africa. It was very hard to find qualified officers and non-commissioned officers for even the first contingents, and the difficulty became increasingly pronounced with successive contingents, until it finally became possible to officer those despatched after hostilities had been in progress for some time, largely by the promotion of officers, non-commissioned officers and men of the previous contingents, who had acquired experience in the field.

An Imperial Service Reserve could be officered with ease, as the difficulty previously existing does not now exist, for the majority of the 1,390 officers of over-sea Colonial forces who served in South Africa would willingly offer their services.

The formation of such a force would probably result in securing a number of men at present untouched by any Militia or Volunteer Force, both for the commissioned posts and for the ranks.

The existence of the proposed Reserve would, of course, make increasingly manifest the necessity for the provision by the Australasian Colonies of institutions in which the youth of the Country might acquire a sound knowledge of military subjects. As an alternative to providing such institutions, the leading secondary schools and colleges might be subsidised to provide a certain amount of the required instruction, and scholarships might be awarded at Government expense to encourage the study of the military profession.<sup>1</sup>

<sup>1</sup> Since the above was written, a Chair of Military Science has been formed at Sydney University, to which a Regular officer, possessed of much ability and Colonial experience, has been appointed.—E.F.W.L.

## TRAINING OF OFFICERS.

In order to ensure thorough touch between the Imperial Service Force and the Regular Army, a certain proportion of the officers and non-commissioned officers of the first-named should be borne on the strength of the permanent force of the Colony to which they would belong, in order that they might devote the whole of their time to military duties. Exchanges should be arranged to take place biennially or triennially between these officers and non-commissioned officers, and those of the Regular Service.

Opportunities could be afforded, selected officers of the force to be attached to various staffs or units of the Regular Army during the training season, Canadian officers joining the Aldershot Command—and those from Australia proceeding to India.

These proposals could be carried into effect at an expense trifling compared with the benefits that would be derived from them.

The names of officers of the Regular Army who have such experience of the Colonies as would especially qualify them for employment with the force, should be registered for that purpose.

By these means the officers of the force, while still retaining their invaluable qualities of self-reliance and inclination towards freedom of action, would be kept fairly well acquainted with the most up-to-date methods.

## TRAINING OF THE FORCE.

In reference to training, the force, if organised without further unnecessary delay, could be recruited largely from officers and men who have served in South Africa. These could be supplemented by efficient officers and men from the local Defence forces, with the addition of specially approved bushmen, and others selected as possessing some particular qualification.

The requirements for efficiency, and to qualify for capitation, and for full rate of pay, should involve a short course of training annually, the attainment of a certain standard in musketry, and the exhibition of a satisfactory knowledge of military duties generally.

To qualify for capitation and pay members of the mounted branch should further be required to produce, at the annual camp of exercise, a suitable horse that should be registered and numbered.

As an additional incentive to efficiency, the pay might be increased or bonuses given on proof of exceptional ability or qualifications.

The Cadet Corps ensure the rudiments of training being received by the youth of the various countries when at school, and when once the obligations of the Colonies are acknowledged by the formation of such a force as that suggested, the men would be unlikely to experience difficulty in obtaining from their employers the necessary leave to attend a camp of instruction annually.

They could, in addition, attend drills at convenient centres.

As an illustration of what might be done in the way of training, the following might be taken as an example:—

Take the ordinary run of sheep and cattle "stations" in Australasia. On each at ordinary seasons of the year are employed probably 20 men; in numerous cases many more hands are carried. Or, should the "run" be a small one, it will probably be found that the home-

Kingdom—that the general inclination on the part of the Colonies is to permit the Home tax-payer to bear the whole weight of the burden, while the Colonial reaps the benefit.

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steads of several holders are within easy distance of each other, having gravitated towards the railway, or main road, or post office, as the case may be.

Now, the employés on those runs are—unless in the busy season, such as shearing, dipping, cattle mustering, or harvest time—almost invariably idle after 6 p.m. daily, and may be seen outside their huts “killing time” by boxing, wrestling, handling young horses, shooting, and kindred pursuits.

The majority of these men being unmarried, and of an adventurous, “happy-go-lucky” disposition, would willingly enroll in the proposed force, and units, such as sections, half troops, troops, or even larger could be formed in many cases, of the men on even a single “station,” or at any rate, from those adjoining.

It may, perhaps, be said that the employers would object to the majority of their men engaging, from fear of being left short-handed at a critical time, should war break out.

The possibility of a war of such magnitude as would necessitate the immediate mobilisation of the force, must, however, appear to them so remote, that such an objection is not likely to prove an insurmountable obstacle.

If a force was raised in this way, the men in place of idling away the long summer evenings, would gladly indulge in rifle shooting, tent-pegging, and sword play, whilst capable instructors might be allotted to districts, and during the winter months, could visit the various small units and instruct the men in the more theoretical portion of their duties.

Inspecting officers might also be allotted to districts for the purpose of examining the men and certifying as to their efficiency. The permanent officers of the force could perform this duty.

A very large, partially trained, mounted force could be raised in the manner indicated, and with the aid of the proposed district instructors, and by attending drills at convenient centres, qualifying in musketry, and attending a camp of instruction for from 14 to 28 days annually, would attain to such a degree of efficiency as would render them a very valuable strategical and tactical asset.

The men selected would, at the time of enrolment, be better horsemen than are the majority of the Regular cavalry, even after years of colour service.

They are, by their upbringing and mode of life, eminently fitted for many of the duties the cavalry soldier is now called upon to perform, and do by instinct many things that all the most painstaking instruction in the world will never enable their compatriots in the Regular Service to do with ease and confidence.

In short, it may be said that it would be much easier to make a cavalryman of the “bushman” than to make a true “light-horseman” of the former.

As to the amount of training necessary to make a good cavalryman of the Colonial, General Rimington, in his evidence before the Royal Commission on the South African War, gave it as his opinion that it could be done in a month, and those acquainted both with the Colonial and with the methods of training employed by General Rimington, will agree that such methods employed for the time stated would result in a very satisfactory degree of efficiency.

The Colonial horse soldier should undoubtedly be trained to the use of the sword as well as to the use of the rifle, as being an expert horseman he would be well able to make good use of the *arme blanche* if required, while bearing in mind that his real duties were those of a mounted rifleman.

#### EQUIPMENT.

The equipment required for the Force during peace need be little, if expense were feared.

Each man of the mounted Force might be required to provide himself with white mole-skin breeches, boots, and gaiters, such as are usually worn by stockmen and shepherds, a thick flannel shirt of uniform colour, and the usual slouch hat would complete the necessary clothing, while an oil-skin coat could be carried for wet weather.

A short coat of the "warm British" class might be issued for cold weather, and for night wear. The men to provide their own saddles.

The saddle held in stores for issue on mobilisation could be issued during training, to ensure them being "broken in," and then returned until required for service.

It is, of course, necessary that arms and bandoliers should be issued to the men, but the whole of the rest of the war outfit might be kept in mobilisation stores at convenient centres.

The infantry might be equipped in a similar manner.

#### COST: INITIAL AND ANNUAL.

To render a Force, such as that proposed, a really potent asset for purposes of Imperial Defence, the entire war outfit must be kept in a state of constant readiness at convenient bases, in the country from which the Force is drawn. The most complete organisation possible must be aimed at, and definite arrangements must be made for the mobilisation of the entire force, complete in every respect as a fighting unit, and for its embarkation in a period of time no greater than that occupied in the mobilisation of a force of the same strength at Aldershot.

What is wanted is not a force of 30,000 men raised during a period of two years, and with considerable difficulty experienced in equipping men, as was the case in connection with the South African War, but a really reliable military force of strategical value ready to hand when required.

To ensure this, considerable outlay will be necessary, particularly as regards initial expenditure.

The provision of arms and equipment will be the principal item, and some controversy has arisen in the past as to the proportion of this expense to be borne by the Home and Colonial people respectively.

The Premier of New Zealand, in submitting his statement on the matter to the last Colonial Conference, suggested that the Imperial Government should provide the capital required to purchase guns, rifles, and equipment for the force, the Colonies paying a sum equal to one half the interest on the first cost.

No alternative suggestion in reference to this portion of the question would appear to have yet been made by any responsible authority, and a satisfactory adjustment should present no insurmountable difficulties.

The principal annual expenditure must, of course, arise from the payment of a sufficiently large retaining fee, to make it worth the while of the men to become efficient. The fee may be estimated at £8 per man per annum for infantry, and £12 per man per annum for mounted men.

This is the amount suggested by Sir George French, and Mr. Seddon also estimated the annual expenditure per man for pay and capitation at £10.

For the suggested force of 20,000 men, a gross combined expenditure of £200,000 would thus be incurred annually by Canada, Australia, and New Zealand, and allowing that the cost of maintenance might amount to £2 10s. per man, in addition, a sum of a quarter of a million sterling should cover the entire annual cost, exclusive of that of ammunition expended, maintenance of mobilisation stores, and fittings for ships, together with probable subsidies to shipping companies for the right of calling on vessels as transports.

The adjustment between the Home authorities and the Colonial Government of the proportion of the annual cost to be found by each should present but little difficulty, as when once the truly Imperial necessity for the formation of the Force is fully recognised, no mercenary consideration is likely to influence the Colonies in the performance of their duty to the Empire.

Even if the entire cost were borne by them, their total monetary contribution to Imperial Defence would be less per head than that borne by the tax-payer of the United Kingdom, and the question of expense has never yet been suggested as a formidable obstacle in regard to the matter.

#### CONCLUSION.

It is most sincerely to be hoped that when the Prime Ministers of the Self-Governing Dominions and Colonies arrive in the Homeland for the next Colonial Conference, a definite proposal for the organisation, training, maintenance, and mobilisation of an Imperial Service Legion will be submitted to them by the statesmen and strategists responsible for the strategical policy of the Empire.

Even apart from the actual value of such a Force from a military point of view, its great moral value as an element in maintaining the prestige of the Empire, and an outward and visible evidence to the world of the unity of the British race, renders it worthy of the earnest attention of our greatest statesmen, and its formation would constitute one of the greatest forward steps ever taken in the cause of Imperial Federation.

Vice-Admiral W. F. S. MANN:—I think of all the lectures I have attended in this hall, I cannot remember one that has interested me more, on account of the lecturer having been in the ranks, having fought through the war in South Africa, and having with great ability brought his conclusions before us this afternoon in the shape of an interesting paper, containing some very valuable suggestions; but I am one of those

who hardly believe in voluntary effort. The suggestions put forward by the lecturer are very good in their way, and I must say that the Colonies have led the way in this respect to the Old Country. Some years ago it was my fortune to be attached to the Colony of Victoria for three years. I was in command of a small naval force there from 1889 to 1892, and there then existed a most excellent Militia and splendid Volunteer corps—I have never seen better Volunteers. The Militia and Volunteers both had their own cadet corps. That was not only the case in the Colony with which I was connected, but also in New South Wales and New Zealand, as the Chairman knows, and they expended a very large amount upon fortifications for their commercial and strategical harbours. At the time I was in Victoria we had guns mounted in the harbours that did not exist in the Old Country. The force all through the Colonies was in an excellent condition. That is no new thing; but alas, that it should be said, time is going on, scheme after scheme for Imperial Defence is brought forward and falls to pieces, and there is nothing done. At the present moment we can thank God that we have got a Navy, because our Army is not what it ought to be—we all know that. What is the remedy? I, and the others who think with me, believe that this problem will never be solved without some method of universal training. I believe if it is put before the people they will agree that it is the duty of every able-bodied citizen to undergo some sort of training to fit himself for the defence of his country and his hearth and home, and I do not believe you will make much progress until that system is universally adopted. If it is, it will be the same for everybody. As Kipling says: "Duke's son and cook's son." I should like the lecturer to tell us this: If he had been through a course of training for three or four months previous to landing in South Africa, would he not have felt much more fit to undertake his duties than he was, when, to a large extent, he had to learn the work of a soldier under fire?

Colonel E. A. ALTHAM, C.B., C.M.G.:—I think the Council of the Royal United Service Institution are very much to be congratulated on having secured Captain Lascelles as a lecturer. The subject he has chosen is one of the greatest importance to this country and the Empire at large, and the personal experience he has been able to bring to bear upon it has added immensely to the value of his lecture. There is so very little to criticise as regards the facts of the lecture that perhaps it is almost ungracious to allude to one small point; but I observed he referred to the conditions under which the local forces of Canada, Australia, and New Zealand are enlisted as prohibiting their employment outside the boundaries of those Colonies. That is not quite technically the case as regards Canada. If I am not mistaken—Sir Edward Hutton will correct me if I am wrong—it is specifically laid down in the Canadian Militia Act that the Canadian Militia forces can, in time of war, be employed beyond the frontier. The object of that regulation is obvious. The forces which in war cannot cross their frontier, which in a military sense is a mere imaginary line, would in time of war be almost useless. I think I am right, too, in saying that somewhat similar regulations exist in Natal, and did exist in some of the Australian Colonies before Federation. I gather from what the lecturer has said they have dropped out of the Federating Act. That is a small point. But there is another of more importance on which I am rather inclined to join issue with the lecturer. He somewhat gave us to under-

stand that the question of the defence of the Empire had never been seriously considered until the other day. I am stating no new thing to a great many people in this room, but I can assure the lecturer that that is not the case. It is more than twenty-five years ago since an extremely valuable work was done by a Royal Commission. That Commission studied with the greatest care the whole question of the protection of our over-sea possessions against over-sea attack. Their studies formed the groundwork of that admirable body, the Colonial Defence Committee, which for twenty years has been engaged in formulating and advising on the question of Colonial defence; and I think a better idea of the work done by that Committee cannot be gained than by a reference to an utterance of a late President of the Imperial Defence Committee, the Duke of Devonshire, which I propose, with the Chairman's permission, to read. The Duke of Devonshire, in a memorable speech which will be familiar to a large number of people present, made before the British Empire League at the Guildhall in December, 1896, stated:—"I have found, with very great satisfaction, on my return to office, after an absence from official life of a good many years, the large progress which has been made in the consideration of the great question of Imperial Defence. A body is now in existence—has been for many years in existence—called the Colonial Defence Committee, composed of representatives of the Admiralty, War Office, and Colonial Office. That body has made a complete study of the question of Colonial defence as it affects every Colony of the British Empire. It has studied the question from the point of view of each Colony, and every Colony, whether it be a Crown Colony or a self-governing Colony, is now in possession of the views of Her Majesty's Government as to the nature of the attack—the possible attack—to which any of them may be exposed, and as to the means of defence which it is possible to oppose to that attack. Every Colonial Government now knows what the Imperial Government is prepared to undertake in their defence, and what may be left to themselves to undertake." Then the Duke went on to enunciate and explain the extremely valuable principles which the Colonial Defence Committee had laid down, on which this system of defence should rest, the basis of those principles being the necessity for maintaining sea supremacy. I venture to call attention to this, not because I for one moment contend that the work done then was complete and provided for every aspect of Imperial defence—I do not think it did—but because it did deal with a very important portion of that problem; and I venture to think that now we are looking at the problem in a somewhat larger manner, it is ungracious and a little dangerous to ignore the work which has been done by those who have gone before us. I do not mean to say it is ungracious on the lecturer's part, because he speaks in a double capacity. When he is speaking of what the Colonies do, he has in his own mind, no doubt, his own particular Colony, and therefore in criticising now this particular portion of his lecture I am rather defending his own side of the case. The lecturer referred to the contributions which the Colonies make to the defence of the Empire, and he put them down at a sum under a quarter of a million. That is not the true limit of the contributions the Colonies make, or have made, for many years past. The Colonies, as the last speaker pointed out, have provided and defended a large number of coaling stations and naval bases all over the world at their own expense. Canada, for instance, has lately taken over the entire responsibility of Halifax and Esquimalt; but she has for many years past undertaken to provide half the garrisons of those fortresses on the outbreak of war.

The Canadians, moreover, provided half the cost of fortifying Esquimalt, and so on. But though that be so, we must also recognise that, when the Duke of Devonshire informed the country that the whole question of Imperial defence had been thoroughly threshed out, he had not entirely grasped that problem. The war in South Africa brought home to us in a very forcible manner that the British Empire is not an island, that its liabilities to attack are not limited to merely over-sea attack, but that it has Continental responsibilities of very great magnitude, and it is to that aspect of the problem to which our attention, I think, must in future be directed. Against over-sea attack, thanks to our splendid Navy, and thanks to the arrangements made by the Colonial Defence Committee, I believe we have made ample preparation; but against land attack we are not so well guarded. India and Canada alone present possibilities of the most serious nature, and to deal with either of those responsibilities it is impossible to imagine that our Regular Army, under our present system of enlistment, can be expanded to a magnitude equal to the task. We must look to outside resources; we must look to the Empire to defend itself as a whole. It was with that view that Lord Roberts advised Mr. Brodrick to put before the late Conference of Premiers the scheme to which the lecturer has referred. He has called it an indefinite scheme. I do not quite understand on what grounds he has so termed it. The actual proposal made was that a force of a total strength of 16,500 men should be contributed by the various self-governing Colonies of the Empire. It was suggested that Australia should supply two mounted brigades and one infantry brigade—in all, 9,000 men; that New Zealand should furnish one mounted brigade and two infantry battalions—in all 4,500 men; that Canada should provide one brigade of field artillery and one infantry brigade—in all, 3,000 men. That gives us an aggregate of 16,500 men, which very nearly approaches the number suggested by the lecturer himself—he, I think, put forward a total of 20,000. Moreover, the attention of the Premiers was definitely called to the points to which he referred—Mobilisation, training, equipment, and so on. The question of cost was also considered, and not in an illiberal fashion. Mr. Brodrick offered to guarantee, out of the Imperial Exchequer, a sum per head, for each man of the Imperial Reserve, equivalent to the pay of an Army Reservist at home, that is, £9 a year. Taking the figures which the lecturer has given us for the suggested force of 20,000, the total sum in that case coming from the Imperial Exchequer would represent £180,000. He has estimated that the total cost of that force would only be a quarter of a million annually, consequently the Colonies themselves would only be asked to furnish out of that quarter of a million, £70,000. I do not think we need in the least be wedded to the details of the War Office scheme. I do not think the authorities were when they put the matter in front of the Colonial Conference three or four years ago. They were merely put forward as a suggestion, as points which the military authorities, who had very carefully considered the whole subject, suggested for the consideration of the Colonial authorities. If the Colonial authorities had said: "We approve your idea, but we would like this or that alteration made; instead of having a mounted brigade we should like to furnish an infantry brigade or a battery of artillery," I am quite sure that the Imperial authorities would have been only too glad to have met them half way. But the answer with which the Imperial authorities were practically met on that occasion was: "We cannot do it; it is against our ideas of self-government, and we can

make no promise until the time comes." It is extremely gratifying to hear from the lecturer that these are not the views of New Zealand; indeed, the Premier representing New Zealand specifically stated so at the Conference. But on a question of this kind we are bound to deal with the Empire as a whole, and I should imagine the Imperial authorities cannot go outside the official representations of each of these self-governing Colonies. There is something, too, in what the Premiers urged. One can, to a certain extent, sympathise with the sensitiveness of a young community, which comparatively only recently has secured self-government, to any sort of interference by another authority over which they have no control. That leads, to my mind, to a most serious consideration of the question of the whole government of this Empire. It may be going a little outside the subject of the lecture, but it seems to me that we shall never get the question of Imperial defence put on a thoroughly sound footing until all the various communities which make up the Empire have a right to a say in the great question of peace and war. The two go together. It really is hardly fair to require Australia or Canada to face a war over some question of European policy in which they have no voice, and over which their advice is not asked. I do hope that in the near future some of our statesmen—it is not, perhaps, a subject for discussion in this building—will devote their minds to the elaboration of some scheme whereby an Imperial Council could be formed in London to decide these questions; but meanwhile, although we recognise this legitimate sensitiveness of the Colonies, I think we have a right to urge upon them that they must, on their side, recognise the actual situation and the actual condition of the Empire. Taking it at its lowest—taking it that all these Colonies, Australia, Canada, and New Zealand, are independent self-governing communities—if England goes to war to-morrow, they will not be treated as neutrals by the other Powers. Similarly, if another foreign Power attacks one of them, England is not going to stand aloof and remain neutral. Therefore, the condition is one of some six or seven great communities bound together by an offensive and defensive alliance. I fancy that no great Powers entering into such an alliance would be such fools as not to bring together their military and naval representatives, sit them down at a Conference, and tell them to think out a definite plan and scheme as to how the forces of the allies are to be employed in a great emergency. That is a point to which I think we should direct the attention of our Colonial Premiers; and I join with the lecturer most heartily in trusting that they will consider that point when they come together at the next Conference in this country.

Major-General Sir E. HUTTON, K.C.M.G., C.B., Major-General in Charge of Administration, Eastern Command:—I should like to preface my remarks by congratulating the lecturer on the very clear and exhaustive manner in which he has dealt with the subject. I can only say that if other cavalry officers of the British Army would carefully collate information of this character, and make such useful deductions therefrom, they would be doing excellent work, not only for their own information, but for the benefit of the Army at large. Before, however, dealing with the question of an Imperial Reserve, which he has commended to you, I should like to make one or two observations with regard to the body of the paper. The author remarks upon the interchange of Staff or Regular officers between the Imperial Army and our Colonies. I believe that the recommendations made by myself in that behalf some

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years ago, both in Canada and more lately in Australia, are about to be put into effect. The lecturer has also remarked upon the inadequacy of the training. I fully agree with him, more especially with regard to the officers and non-commissioned officers. The schools, both in Canada and Australia, for officers and non-commissioned officers in the Militia and Volunteer forces are only in an embryo condition at present, but there is every reason to believe, more especially in Canada, that they will very shortly assume a most practical and valuable shape. The lecturer alluded to the Australian military system recently adopted by the Commonwealth Government—I may say three successive Governments (including one Labour Government). The lecturer has inferred that the Defence Bill which has now been passed, and the Commonwealth military system are based upon the recommendations in my first minute upon defence, dated April, 1902, to the effect that the forces should be organised, firstly for the defence of Australian soil, and secondly for the defence of Australian interests wherever threatened. I might say that those principles were endorsed by nearly all, if not all, the leading statesmen whom I consulted on the subject from their personal point of view; but the Government at that time, and many of the statesmen who were then in opposition, concurred in the view that the Australian public was not sufficiently educated to accept principles of such a comprehensive character. The provisions of the Defence Bill which I submitted to the Commonwealth Government, leaving with them the power of utilising their Militia troops outside the confines of Australia, were accordingly omitted. It is, therefore, wrong to say that the existing Defence Bill is based upon this principle; but the Commonwealth military system, at the same time, admits of the power of putting into effect the defence of Australian interests wherever threatened. The principle of the forces of Australia being divided into a Garrison Force (*i.e.*, for local defence, including a mobile column), and into a Field Force for defence of the Commonwealth as a whole was admitted. It was obvious that in a large country like Australia, which in area is equal to nearly the whole of Europe, it was absolutely necessary that the forces for the protection of so large an area should be of a mobile character, and the Field Force now created is available for the defence of Australian soil, and might readily, if need arose, be utilised hereafter for the defence of Australian interests generally. The lecturer has alluded to Canada and the system prevailing there, as exemplified by dispatch of the contingent in October, 1899, to take part in the South African War. He quotes one of the Ministers as having said that this Canadian contingent was equipped and dispatched in fourteen days. Such a statement could only have been a *façon de parler*. I was in command in Canada at that time, and I can assure the audience that this particular contingent which was dispatched had been most carefully organised and prepared many months before its actual dispatch. The boots alone with which the men were provided had to be made, which took at least six weeks. The troops themselves, moreover, had to be concentrated at the port of embarkation, many of them coming between 3,000 and 4,000 miles. It is obvious to the audience, I feel sure, that in fourteen days it would have been an absolute impossibility to concentrate, equip, and dispatch so large and useful a body of men. The lecturer has, I think, inferred that this regiment (the Royal Canadian Infantry) was sent to South Africa defective in its military knowledge, and had to be retained for many months at Belmont on the lines of communication before it was fit to take the field. I should like to say at once that the units composing this

particular regiment had to be brought from all over Canada, and were only concentrated at Quebec a few days before their dispatch. They were not kept concentrated in Canada for training purposes, as, for political reasons, and obviously for military reasons, it was most necessary that Canada's contribution to the Imperial Army in the field should not be behind the contribution from Australia. They were therefore dispatched directly they were concentrated, and it was accordingly necessary that, for a short time at least, they should be kept together as a regiment before taking the field. Of the actual prowess and gallantry of the regiment when it did take the field, the capture of the laager at Pardeberg is a sufficient exemplification. I fear that the lecturer's view of the sentiment in Australia at the present moment in regard to Imperial questions is slightly Utopian. The existence in this country of Little Englanders is well known, and I can assure you, my Lord, and also my audience, that there are Little Englanders in Australia also. I fully believe, however, that the Little Englander element in Australia will exercise as little influence in the future of Australia as the Little Englander section of the community will do in this country. As regards the proposal of the lecturer for an Imperial Reserve, I regret extremely that I cannot endorse the views which he has enunciated, not because they may not be sound in themselves, but because they are not practicable. It was of great interest to me that Colonel Altham should have been here to-day, because it was his able minute on the subject which perhaps brought the question in a practical form upon the military and political *tapis*. The proposal for an Imperial Reserve upon the lines indicated by Colonel Altham can only be characterised as an attempt to make the political and constitutional instincts of Anglo-Saxon communities subservient to a military ideal. I regret extremely if my views should be different from those of my friend, Colonel Altham, or those of the lecturer. They are perhaps not the views which I should hold as a soldier, but which I am bound to give voice to from my knowledge of the political difficulties, both of Canada and of Australia. Immediately following the announcement of the proposal for an Imperial Reserve, the whole of the Australian Press with one accord, and without exception, condemned the suggestion in most unequivocal language. There is nothing which the Australians so tenaciously regard as any effort to curtail their legitimate constitutional rights, as they conceive them to be. The idea of the Imperial Government maintaining, even at their expense, a Reserve which would be at their disposal in time of war, without reference to the Government under which the men in question are living, was, and is, regarded as practically tampering with the foundation principle of Constitutional Government. There is, after all, but little difference in that regard, as it appears to Australians, between "blood and muscle" in the shape of soldiers, and subsidies to the Imperial Government in the shape of duties and compulsory taxation. To illustrate my meaning, I might mention that one of the leading statesmen in Australia said to me, in regard to this proposal, that he could not help thinking that the Imperial Government had forgotten the real point at issue in the matter of the tea duties and the American Colonies in 1776. In other words, he considered that the scheme was an attempt to renew the principle of subjecting the Colonies to taxation in blood and muscle without representation. There is, I fear, no hope whatever of inducing our self-governing Colonies, whether it be Australia or Canada, to accept the proposition suggested by the scheme. The only chance of an adequate military defence for the Empire in which the self-

governing Colonies will take a share is by a system of co-operation for defence, in which each portion of the Empire shall undertake a definite share, but at the same time be consulted upon the policy which might bring such a force into operation. I have consistently advocated a co-operative system of defence based on the above lines for many years, and the more I see of our self-governing Colonies, and the more I am brought into contact with the public opinion and the national instincts of our Colonies, the more I am sure that the only possible means of compassing the ends which the advocates of a Consolidated Empire have in view is upon the lines which I have indicated. It would moreover be out of the question to suggest any control of the Dominion or of the Commonwealth military forces outside Canada or Australia. Public opinion would never admit even a suggestion of outside interference with what they naturally look upon as their Constitutional right. Co-operation in the defence of the Empire under the circumstances that exist must be solely a matter of sentiment, and in the present condition of public feeling it would be unwise to press anything more. The strongest possible feeling of sympathy with, and determination to be considered a part of, the Empire exists in every part of Canada and Australia, as I know from personal contact with the people. This feeling has been intensified a hundred-fold by the recent campaign, and nothing struck me so much upon my return to Australia on the second occasion in 1902 as the extraordinary development of public feeling in this respect, brought about in a very large measure by the very considerable number of troops which had taken part in the South African campaign.

Captain E. FF. W. LASCELLES, 3rd Dragoon Guards, in reply, said:— I do not know that I can say very much in reply to the discussion, particularly the remarks of Sir Edward Hutton and Colonel Altham, because I take it the object of a meeting of this kind is to promote discussion, and to ascertain what the individual opinions of officers are; but there are one or two points on which I would like to make a remark. Colonel Altham referred to the memorandum submitted by the War Office to the Colonial Conference in 1902. I had proposed commenting upon the suggestions contained in that memorandum, but my attention was directed to a certain paragraph of the King's Regulations, prohibiting discussion of official documents, and I had to omit reference to it. I am quite in accord with the remarks made by Admiral Mann, that some sort of preliminary training is necessary. I probably realised that as much as anybody when I went to South Africa. Any system which will ensure the regiment a certain amount of training is what is wanted first. Personally, I had done absolutely no soldiering at all. When we went into camp at Wellington, the first thing we did was to learn one end of the rifle from the other. We were doing that for a week or ten days, and even then we did not know much. Then 500 men were put on board ship, and we only had twenty-five rifles between us. We used to throw boxes and bottles overboard and shoot at them during the trip in order to improve our shooting. We received no further training before going into the field. Colonel Altham remarked that the naval defence is quite adequate. If this is so, and if Australia considers that her contribution to the Navy is enough to afford her sufficient naval protection, why is she at present considering proposals for forming a coast-defence Navy of her own? I believe they say they have no guarantee at present that fast cruisers, or something of that sort, would not come in and play

havoc with the coast towns. They are therefore considering proposals for establishing a Navy of their own. That, I believe, is rather contrary to a good deal of Australian opinion; the people generally say they consider that any contribution towards naval defence should go towards the Imperial Navy, and that as an Empire we should have one Navy. I think everybody recognises that. I inferred, from such documents as are in my possession, that the system now in operation in Australia was based upon Sir Edward Hutton's recommendation—that steps should be taken wherever the interests of Australia were threatened and involved. I believe in one of the Australian papers some time ago there was considerable discussion on this question, when attention was being directed to the altered strategical position in the Pacific. The papers said they had one thing to be thankful for, and that was that they had accepted this principle, and that their interests were not alone concerned with the protection of their own hearths, and I believe this to be the view taken by the majority of the people. I think as regards the sentiment of Australia in reference to this question and to defence questions generally, the most remarkable change in the sentiment of the country is in connection with the opinions expressed by the Labour Party, who were absolutely opposed to anything being spent on defence at the beginning of the term of office of Sir Edmund Barton's Ministry—the first Commonwealth Ministry — and now their views are apparently becoming entirely different. As regards Colonel Altham's remarks, in reference to an Imperial Council, that, I think, is a thing we would all like to see; but there is nobody so gifted with second sight as to be able to tell how it is going to come about. I am entirely in agreement with Sir Edward Hutton, that we should have some real system of Imperial defence, co-operative or otherwise. I do not say that this proposal of my own is of any value; it may not be worth the paper that it is written on, but what I do suggest is that some definite proposal should be made, and that it should be made a question of urgency for the whole matter to be threshed out. We have got no guarantee that within the next twenty years we will not want men just as badly in the Pacific as anywhere else. I cannot say any more on the question, but I think that the one thing we must lay stress on is the solution of the problem in some way. It does not matter whether it is a co-operative system of Imperial defence; it does not matter what sort of a system it is, as long as we get a system. At present I do not think we have got one.

The CHAIRMAN (Captain the Earl of Glasgow):—I believe it is usual for the Chairman, after the close of the discussion, to give his own views on the subject. I do not know that my views are worth very much, but I thoroughly agree with the last remarks made by the lecturer, that some form of Imperial defence is necessary. In my opinion we ought to be very much obliged to the lecturer for his very clear, well-written, and excellently-thought-out scheme. And it has another merit, in that it has brought out so clearly the views of the man who knows more about the subject than anybody else—I allude to Sir Edward Hutton. It is a most important thing that this lecture has elicited Sir Edward Hutton's views in a manner which will make them known to the country. There can be no doubt about it that it takes a good deal of experience to find out the feelings of the Colonies upon this question, and nobody has had more experience than Sir Edward Hutton, both in Australia and Canada. In

the communications which have passed between him and the different Governments of the Colonies he has been able to find out those feelings. I take it from him that it is absolutely certain that co-operation is the only manner in which we will be able to get a proper defensive scheme for the Empire, and I think we owe it to the lecturer that we have had that expression from Sir Edward so clearly given. We all, I think, owe a debt of gratitude to the lecturer for coming here and giving us such an interesting lecture. It shows us that he takes a great interest in military subjects. He has shown by accepting a commission in the Army, coming as he does from New Zealand, that he is a thorough soldier at heart, and he has shown by his labour in producing this lecture, which is well worthy of consideration in all its parts, his ability as a student of military subjects. I therefore ask you to join me in according a hearty vote of thanks to Captain Lascelles, Adjutant of the 3rd Dragoon Guards, for the admirable paper he has read this afternoon.

## MILITARY BALLOONING.

*By Lieut.-Colonel J. E. CAPPER, C.B., R.E.*

Wednesday, 24th January, 1906, at 3 p.m.

Field-Marshal Sir GEORGE S. WHITE, V.C., G.C.B., O.M., G.C.S.I.,  
G.C.M.G., G.C.I.E., G.C.V.O., Governor Royal Hospital, Chelsea,  
in the Chair.

*Preliminary Remarks.*—I would propose to divide my lecture into two main heads, viz.: First, present apparatus, including captive observation balloons and kites, captive signal balloons, and free balloons; secondly, future developments, viz., aerostats or dirigible balloons and motor-driven aeroplanes.

To deal first with the subject of captive military ballooning for observation purposes. I would venture to suggest that up to the present we have really given this but little serious consideration or trial in war.

The proper tactical use of balloons does not appear to have been studied, whilst a general ignorance prevails as regards their capabilities and their deficiencies. There is a tendency on the one hand to look on them as a useless encumbrance to an Army, and, on the other hand, to expect too much of them, and to be disappointed when they fail to fulfil such expectation.

I would ask you therefore to approach the subject with an open mind, and to realise that it is not solely from past results—either in war or on manœuvres—that one should judge of the value of balloons to an Army, but to consider what may justly be expected of them and what are the conditions under which they may prove of value.

*Captive Balloons: The Balloon an Observatory.*—The Military Balloon at present existing in the Armies of civilised countries is a captive balloon capable of raising one or more observers in the air to a greater or less height, and held to the ground by a wire cable attached to a drum mounted on a wagon.

It is neither more nor less than a portable observatory of a somewhat unstable nature, capable of being transported and readily erected at any desired spot. Though not forming perfect observatories, balloons and kites are the only apparati at present known by which an observer can be raised quickly and conveniently to such heights above the ground as will enable him to overlook country invisible from any portion of the ground to which he can obtain access.

*General Principles.*—A study of the past history of balloons on active service has brought prominently to my notice two facts: First,

that whilst the general principles on which balloons should be worked are quite simple, they have been too often disregarded; and secondly, that defects of the apparatus hitherto used have largely discounted the value and accuracy of observations obtained, whilst these defects have always rendered it doubtful whether the balloon could ascend or not.

The disregard of general principles may probably be attributed either to a failure to properly appreciate the *raison d'être* of the balloon or to a disbelief in its utility, which disbelief was founded, no doubt, on past results. Whatever the cause, those conditions necessary to enable the balloon to fulfil its proper duty were generally left unfulfilled.

Now, although it appears a platitude, I cannot too strongly impress on you that the captive balloon exists solely and entirely for the purpose of obtaining information which can only be gained by looking down from a height and is not obtainable from any point on the ground.

*Trained Observation.*—Although improvements of apparatus have rendered the balloon a much more stable observatory than formerly—so much so that ordinarily powerful glasses can be used—there is no doubt that considerable practice is necessary in order to get useful observations.

The natural feeling of insecurity, the slight motion which moves the field glasses, the strangeness of one's surroundings and the outlook, and the tendency to look too close below one instead of far afield, all militate against the value of the novice's reports, more especially with our Service balloons, which are advisedly kept so small that usually only one man can ascend at a time to any considerable height, so that the novice would have to go up alone.

*Balloon Officers Members of Intelligence Staff.*—Unless and until, therefore, a number of officers of the General Staff are trained to observe from balloons, it must follow that it devolves on the balloon officer to make the observations himself.

Now, unless this officer knows generally the situation, and is aware of what is already known, he will waste a great portion of his time in observing movements, etc., of which he need take no special notice.

Believing, as I do, that when two armies come into close touch, reconnaissance on the ground becomes a matter of such extreme difficulty and takes so long that it becomes almost impossible to trust to it, I cannot but think that more and more importance will be attached to the balloon observation.

This being so, it is all the more important that the balloon officer should be in a position to judge, in the absence of specific instructions, of what information will be of value, and of what may be disregarded. He can only look in one direction at one moment, and must concentrate his attention on particular movements or tracts of country; and unless he knows fairly thoroughly the particular situation, he may waste his time in observing what is already well known, and may fail to observe something that may be of immense importance to the Army.

He should therefore be in the very closest touch with the Intelligence branch of the Army; in fact, directly he ascends in his balloon he becomes a very important link in the chain of the Intelligence Staff.

*Transmission of Intelligence.*—Of equal or even greater importance is the organisation of a proper and rapid system of transmitting intelligence between the observer and the Headquarter Staff, or any individual units specially concerned.

The best system is telegraph supplemented by signals in case of a breakdown, and the best system available is the one to use. *Without such a system the balloon observer, however good and accurate his observation, becomes merely an interested spectator of little or no use to the Army. With such a system, the G.O.C. has the use of the observer's eyes, and is able from time to time to direct his observation on the point it is vital for him to know.*

*Cardinal Principles.*—The cardinal principles to bear in mind are, therefore, first, that the officers of the balloon companies should be in the closest touch with the Intelligence Staff of the Army, and should be specially trained for their work; secondly, that the balloon should be furnished with the best possible means for communicating with the G.O.C.

I venture to predict that if these principles are adhered to, the captive balloon will in future play a far more prominent rôle in war than in the past.

*Physical Defects of Balloons.*—Before proceeding to the subject of the tactical use of a balloon in the field, I will touch on the physical disabilities of a captive balloon and the methods adopted to counteract them.

These are of two natures: First, obstacles to view, such as thick woods, which hide all movements, roads concealed by avenues of trees, rain, mist, low-lying clouds, and darkness.

Then there are physical obstacles to the movement of a balloon, such as enclosed country, telegraph wires, railways, towns, and villages, which, especially in peace manœuvres, greatly hamper the movements of a captive balloon.

Such obstacles often cause delay, but are not insuperable.

Then there are some which can only be dealt with by improvements in apparatus.

The greatest enemy to the captive balloon is a high wind, which not only renders it unsteady, and therefore the use of the powerful glasses necessary for good observation difficult, but prevents the balloon rising to a sufficient height. There is also a twisting motion of the captive balloon which hampers one very generally in the location of points and makes orientation difficult.

*German Balloons.*—In order to overcome these difficulties the Germans have adopted an elongated balloon rigged like a kite. In calm weather the buoyancy of the gas will take it up, whilst in windy weather the balloon is kept head on to the wind, which, striking against the under surface, lifts it in the manner of a kite. This balloon is said to be satisfactory, and I am informed that observation with glasses is possible from it in strong winds.

It is, however, open to the grave objection that it requires to handle it a detachment three or more times as large as the one we require, whilst the transport required to put a single balloon in the air is twice that of ours.

Moreover, from experiments I have seen, I should judge that in a high wind should any one of the numerous ropes comprising the rigging be cut by shell-fire, or break, the violent death of the aeronaut would be almost a matter of certainty.

*French Balloons.*—The French equipment consists of a spherical balloon considerably larger than ours, with the car suspended from a trapeze some distance below the balloon. To a certain extent this arrangement prevents the swinging of the car, but renders access to the balloon itself difficult in case of emergency, and does not assist the balloon to rise in high winds.

*British Equipment.*—We ourselves are striving in another direction, using in the lighter winds the small balloon with the car so close below it that access to the balloon is easy, and steadying it by rope attachments from the top and sides of the balloon to the cable, whilst we trust to kites to lift us up in winds too strong for the balloon.

The balloon itself is sufficiently steady to enable observation to be possible in a moderate breeze (25 miles per hour), whilst the kites enable observations to be made in winds up to a moderate gale (50 miles per hour).

*Kites.*—The kites we have tried give very satisfactory results, the car remaining comparatively steady at heights up to 1,500 feet. On the few occasions on which ascents have been made to greater heights (the record is just under 3,000 feet by Lieutenant Broke Smith, R.E.) the observer reported the car too unsteady for observation.

With the adoption of a perfected apparatus and further experience we may hope to be able to guarantee observation from the air on any day on which the visual condition of the atmosphere permits of it.

*Notes on a Balloon Company.*—A balloon company in the British Service can ordinarily only put up one balloon or one set of kites at a time. It requires 5 wagons with necessary horses, drivers, and 19 non-commissioned officers and men to actually fill the balloon or put up the kites quickly. There are generally 3 officers, and this is not in any way too much for one balloon, as the strain of observation is very great, and after two hours' hard gazing through strong glasses an officer has had about enough for the day.

In addition to the above numbers there are a few men for the gas train and camp, three wagons containing an extra fill of gas, and baggage and equipment wagons.

*Tactical Uses of Captive Balloons.*—To pass to the tactical uses of the captive balloon:—

The man-carrying balloon has two rôles in modern warfare:

1. The obtaining of information.
2. The infliction of damage on the enemy by directing the fire of artillery on objects invisible from the ground. It probably has also an indirect moral effect in preventing attempts at turning movements and the massing of troops for surprise attacks, where such movements and masses are invisible from the ground held by us though visible from the balloon. As this latter effect cannot be defined I will not further allude to it, though I look on it as a point by no means to be despised.

*Information Obtainable.*—The information to be obtained from a balloon is naturally confined to the limits of direct vision as assisted by glasses. In a flat open country movements of considerable bodies have been distinguished as far as 15 miles; but at this distance the nature of these bodies, whether infantry, cavalry, or cattle, cannot be distinguished.

As a rule where a country is fairly open and undulating, without steep hills and deep narrow valleys, any single battalions, squadrons, or batteries in close formation or marching along open roads can on clear days be distinguished at from 4 to 6 miles, though at these distances artillery may easily be confused with wheeled transport. Batteries coming into action can often be seen and the guns counted at over 5 miles, mounted troops in open formation at 3 to 4 miles, and infantry in open formation at 2 to 3 miles.

Artillery in position but not in action is difficult to see except when the horses are grouped in open ground. Halted troops of all arms are far more invisible than when moving.

Ground greatly affects the possibility of observation; on grassy or sandy ground troops show up clearly; on heather or plough all arms are very difficult to distinguish even at half the distances mentioned.

Fairly good eye-sketches of country are possible up to from 4 to 8 miles.

In England the distances mentioned are not often attained, as the atmosphere is so rarely clear.

Further, the sun makes a very great difference in the power of vision. With the sun fairly high in the heaven behind one, objects are far more easily seen than when it is behind the object looked at, whilst the shadows of clouds on the ground will often hide objects seen quite clearly before in the sunlight.

*Distance from Enemy.*—Enough has been said to show that ordinarily it is useless to employ an observation balloon at over 6 miles from the object to be observed, though special circumstances might warrant its use for even greater distances; but generally it is desirable to have it as close as possible to the enemy.

*Transport.*—The use of a balloon is much affected by questions of transport.

Whilst the complete balloon with all necessary observing instruments and cable is carried on one 4-wheeled vehicle, in order to use it, it is necessary to carry gas to fill it. Though the gas used is of the lightest description, it has to be carried compressed in strong steel cylinders which are of considerable weight. The gas sufficient to fill one man-carrying balloon requires three 4-wheel vehicles.

*Rapidity of Movement: Unfilled.*—So long as the empty balloon and the gas remain on the wagons, the whole can be moved with fair rapidity over any ordinary ground, the sappers being carried on the wagons. Its pace may be taken as rather less than that of field artillery. When an ascent is required under these conditions it can be made in about half an hour from the line of march.

*Filled.*—Once the balloon is filled, however, unless there are more wagons of gas available, the movement of the balloon in close country, or in open country against the wind, is very slow. Roads with trees alongside cannot ordinarily be used, and considerable detours may have to be taken to avoid obstacles. It may even be necessary in extreme cases to empty the balloon, letting the gas waste into the air.

*When to Fill the Balloon.*—The question therefore arises as to when the balloon is to be first filled, and if, as is usually the case, transport is a consideration, whether it should not be reserved for use later.

Where concealment is desired it would obviously be a great mistake to fill the balloon at all; on the other hand, where deception was the object, it might be worth while to put up a balloon at some distance from the main position of the army to act as a decoy.

*Position of a Balloon Company with Advance Guard.*—The normal position of a balloon company with a force on the march would be with the advance guard, kept ready to fill until such time as the advance was stopped by the enemy. The march of the main body might be unduly delayed if ordinary methods of reconnaissance were resorted to; on the other hand, an advance without reconnaissance is a dangerous operation, and has frequently led to an undesired battle, in which the main army has to be engaged.

A balloon pushed well to the front or to a flank, filled under cover and allowed to ascend rapidly, might ascertain in a few minutes whether the enemy were present in force or whether they could safely be brushed aside. Even if the balloon had at once to be deflated, the information would be well worth the transport of three wagons of gas.

In such circumstances the balloon must be very boldly used; the detachment would presumably be concealed, whilst a balloon rising rapidly to a considerable height is a very difficult mark for artillery, and the punctures caused by even a considerable number of rifle bullets would not affect its capacity to stay in the air for the short time necessary to make the observation. Its rôle for the moment finished, the balloon can be brought to the ground, and if necessary be deflated and packed on the wagon so quickly that even if our troops were driven back, the detachment should have time to get back with their wagons and gear.

It would rarely be advisable to keep a balloon up with a body of troops on the march, except where concealment was impossible (as often in savage warfare), and where the country was open and undulating, so that much scouting work could be saved to the great comfort of the mounted troops accompanying the force.

*The Balloon in the Attack.* — It is necessary to consider the observation rôle of the balloon in the attack of a position and in the defence.

In the attack of a position the balloon will try to assist at first in locating the enemy's trenches, the position of his artillery, and his reserves and massed cavalry. In doing so a map of the ground is of immense assistance; failing this, an eye-sketch from the ground near at hand, supplemented by a sketch from the balloon, is very useful. If maps exist, the balloon can at once be boldly pushed up as close as practicable to the enemy's outlying infantry. It must, of course, be protected by our own advanced troops, and the detachment must be behind cover of some sort from the enemy's view.

It is a great mistake to keep the balloon back; let it get as close as the balloon officer wishes to take it. He must be allowed to run some risks in order to obtain the best results.

By judicious movements he may be secured to an extent from the enemy's artillery fire, as ranging on a moving balloon appears very difficult. Moreover, he may be of use by actually drawing the artillery fire, and thus be enabled to locate guns otherwise invisible.

Without maps the difficulty of reconnaissance is immensely increased, and time may be well spent on making a sketch, however rough. For this purpose the balloon should be kept well back where the map maker can work in comparative security, without being too much harassed by the enemy.

*Use of Squared Maps.*—Whether maps exist or whether they have to be made, I would urge that all military maps be divided into small squares, as are the maps of an atlas, as it is then comparatively easy to locate movements on any particular square so that the position is defined on a similar map elsewhere. It is far quicker to describe a point and also to find it, e.g.: "Spur in D8," instead of: "Spur running S.E., about half a mile north of point 234 on road from Marlow to Henley."

*Photography.*—Photography may very probably be applied to the preliminary map-making; but at present the results we have got, though excellent in cases, have not been sufficiently rapidly obtained to be of practical use. Experiments are being made in this direction.

*The Balloon in the Defence.*—In the defence of a position, balloons should be put up at a very early stage. They need not give the position away, as they can be put up behind it, or on the flanks, or in front, being withdrawn as the enemy comes closer. They may very usefully be put up well in the front if covered by advanced troops; but as a rule it is not advisable to direct the balloon officer to ascend from a particular point if the balloon is to be subsequently withdrawn. It is best to tell him how far to the front the advanced troops will be, and what tract of country to observe; furnish him with a cable cart to keep up communication, and leave him to go where he likes.

*Position Affected by Nature of Country and Direction of Wind.*—The site he will choose will depend on circumstances; he must consider rapid means of withdrawal both for his detachment and for his balloon, and know whether he can afford to sacrifice his balloon or not. With a wind blowing from the enemy towards his lines he can neglect the nature of the country between him and his lines, and he can go free when his work is finished, landing near some defined place within the protected area where his wagons and men will meet him. As an instance of the possibility of this, on the last day of the 1st Army Corps manœuvres in September last, the balloon was about 6 miles N.E. of Henley at the conclusion of operations. The wind being favourable it was sent off free and brought down within 300 yards of our camp, being safely stored there more than an hour before the company arrived, very little gas being lost on the journey.

On the other hand, should the wind blow away from our defended area, the balloon must be brought back attached to the wagon or taken by hand, and freedom from obstacles on the return route must largely influence an officer in his choice of the locality from which to ascend.

*Specific Instructions should be given as to Direction of Observation.*—It must be remembered always that no one pair of eyes can see everything, and that in all reconnaissance work it is well to tell the balloon officer to watch particularly generally in some definite direction. He will be able to look round at other portions of the ground; but much that happens, especially in enclosed country on a

large area, must necessarily escape his notice, as, whilst watching the movements of one body of troops, others move to places where they are hidden from view.

*Neighbouring Troops to be Responsible for Warning the Balloon of Danger.*—And I must here draw attention to the necessity of troops in the neighbourhood warning the balloon observer of any enemy in close proximity, otherwise considerations of personal safety may influence him in looking too closely at the ground which is especially dangerous to him personally. His men have to be prepared at any minute to work with the balloon; they are nearly always in a hollow or behind cover, where they have no view, and the whole must depend for safety on other watchers. The detachment is so small that no one can be spared for this duty.

*Direction of Artillery Fire from a Balloon.*—A very valuable property of a captive balloon is the facility with which observation of artillery fire can be carried out from it.

Though no exact method of ranging from a balloon has yet been evolved, a line can very easily be given from the balloon to a battery, and this line can be given with great accuracy and considerable rapidity.

The balloon ascends close to and behind the position where the guns are to come into action, and the observer looks about for a likely target—say the enemy's artillery or masses of troops hidden behind folds in the ground. He then aligns two men stationed on the ground below him by signalling to them with different coloured flags, until similar flags which they hold are aligned on the target. With a practised observer and men used to the work, a line with an average error of less than  $1^{\circ}$  can be given in about 3 minutes. If maps are available he can give the approximate range, and if not he must estimate it.

The guns can be brought up under cover and laid on the line so given. The balloon is connected up with the battery commander by telephone, and by reporting approximately the distance under or over of each ranging shot fired, the target can generally be reached at from the 5th to 7th round, when fire can be made as rapidly as desired.

*Comparison of Observations from Balloon and Ground.*—It appears much easier for a skilled observer in a balloon to estimate the fall of the shell than it is for an observer on the ground. In practices involving the observation of about 400 rounds the percentage unobserved from the ground was 17.8, whilst of 700 rounds observed from the balloon the percentage was only 3.9. In the same practices the percentage of rounds wrongly observed as over or short was 6 from the ground and 1 from the balloon.

Should the target be moved, if it does not move fast there appears no great difficulty in following it up by shrapnel fire, once the original range is found, though this undoubtedly requires to be practised.

That the assistance which can be given to artillery by aerial observation is valuable cannot be doubted. The battery is enabled to fire from behind cover, and so very effectively: whilst it will be placed at a great advantage in engaging guns also firing from the rear slopes of hills or similar situations in that its fire can be almost if not quite as accurate as if it were firing direct, whilst the enemy's fire must depend for its effect largely on chance.

Once the line is given there is no necessity for the balloon to stay close behind the battery. Observation can be made just as well

from several hundred yards to a flank, and half a mile behind the battery, as from immediately over it, so the position of the battery is not given away.

*Vulnerability of Balloon.*—The question of the vulnerability of a balloon to artillery fire has not yet been satisfactorily determined. It is very desirable that it should be. It is, however, known that shrapnel will rarely bring it down with a run, and that it may be hit many times by rifle bullets without material damage. Perhaps a pom-pom may cause it considerable trouble, but I am not aware of this weapon having been tried against it.

Probably kites will prove particularly hard to disable, as many holes may be made in a kite without interfering with its power of flight, and should a stick break, as has happened on several occasions, the kite appears to descend quietly, without shock to the observer, and a fresh kite can quickly be fitted and a new ascent made.

*Necessity of Observation by Staff Officers.*—Before leaving the subject of captive ballooning, I would urge the advisability of Staff officers, especially senior officers of the General Staff, accustoming themselves to this method of observation. I know of no method by which one can so easily get a general grasp of the lie of country ahead; nor is there any special danger or even great inconvenience to be apprehended in short ascents under normal conditions. Many men think that they will feel giddy, but I have known large numbers of people go up under ordinary conditions without more than one per cent. feeling in any way affected by the height or by the motion; one does not need to look down; actually one looks at a small angle from the horizontal—whilst it is obvious, that other things being equal, that officer's observations will be the most useful for reconnaissance who is best fitted to judge of the importance of what he sees.

*Signal Balloons.*—Small balloons with simple signals attached have been used with success on manœuvres; their use might, with advantage, be extended for war.

The signal is very conspicuous in clear weather, and readily attracts the attention of troops in all parts of the field, with the advantage that it is seen simultaneously by all the troops, and does not need to be communicated as an ordinary message through many channels before reaching the individual.

For a combined attack by forces situated at a little distance from one another it would appear valuable, or for a general cessation of attack, or in case of withdrawal. There can be no danger of one attack commencing before the other is ready, if they both start on the signal. But two things appear necessary, viz., that the signal balloon should go up from a stated place, and that it should be of a special shape or colour.

The present organisation of a balloon company does not allow of signal balloons being used elsewhere than with the observation balloon. The small balloon company has its whole time taken up with the observation balloon, and has really no time to put up signals. In order to work the signals properly, an increase of 8 or 10 non-commissioned officers and men with a proper signal outfit on a special carriage would be required, and would probably be well worth the extra transport.

*Free Balloons.*—The free balloon has very limited uses in war. So far it has only been used during the Siege of Paris, where a great

number of such balloons were sent out of the town carrying despatches—and occasionally politicians. No effort appears to have been made to effect reconnaissances by such means.

Free balloons may be useful for the first purpose, and in specially favourable circumstances might be used to communicate again into a fortress of considerable area, where the enemy only occupies a band of country round it; but not every balloon sent off, even with a favourable wind, can hope to land in the fortress, a very slight deviation of air current being sufficient to take it from the proper direction. It is absolutely at the mercy of the winds, though skill may enable advantage to be taken of air currents moving in different directions at different altitudes; still, it would always be doubtful if a balloon would reach the desired destination if such was of limited area.

It has been suggested that where an invader lands, a free balloon reconnaissance might with advantage be made across his line of advance, but I do not myself hold out any hope of useful work of this nature. It would be necessary to go about 20 miles per hour, and stay up from 2,000 to 3,000 feet, and I find that in these circumstances, it is wonderful how little one sees of troops on the ground, except on main roads nearly directly underneath. If you imagine yourself trying to reconnoitre a position whilst moving in front of it on a motor car at 20 miles an hour, you can imagine some of the difficulties.

It might be possible to obtain some information of an enemy's position in a light wind by moving over it in a free balloon carrying carrier pigeons to take back the information gained, and sacrificing observer and balloon for the purpose, or a run might be made across an enemy's position in a friendly country; but the observer would have little prospect of himself bringing back his observations. Still, he might take valuable photographs of a prepared position—earthworks come out very well—and perhaps with a bullet-proof car he might manage to bring them safely to where they could be developed; but he would have to go slowly and keep low to make any useful personal observations.

*Dirigible Balloons.*—The dirigible balloon is a problem that will have to be faced in the next great war. Lebaudy's balloon in France, which has gone 40 miles in about 2½ hours, and for which a speed of 25 miles per hour is claimed, has shown that such air-ships can in light winds proceed to desired points and return; but the present limitation of distance appears to render them useless for general scouting purposes, though they may prove even in their present stage exceedingly useful for limited journeys, as for reconnaissance of or from a position, or for use from or against a fortress. They are, however, excessively vulnerable, as when punctured they lose their shape, and it is only by retaining their shape they can make headway against the resistance of the air, and there are many very serious technical difficulties to be overcome before we can hope for great assistance from them. When we can obtain one capable of journeying 500 miles and of staying up in the air 24 hours at an average speed of 20 miles per hour, the dirigible balloon will undoubtedly prove a factor of considerable importance in war—being in this way better than the free balloon, in that it can move against the wind and halt above any desired point. Whether it will be used for offence by dropping explosives from it I cannot say. Such use is at present, I

understand, barred by International Conventions. If, however, the unfortunate aeronaut, in addition to the ordinary risks inseparable from ballooning, is to be shot at and risk a violent death by his machine being blown to pieces in mid-air, I conclude he will feel himself entirely justified in making things as unpleasant as possible for people on the ground.

*Flying Machine or Propelled Aeroplane.*—There is another and far more important phase of aerial locomotion which in the near future may probably have to be reckoned with, and that is the propelled aeroplane, or motor-driven kite. Valuable experiments are being made in this direction in many parts of the world, and some I know have met with such success that in a few years we may expect to see men moving swiftly through the air on simple surfaces, just as a gliding bird moves. Over 20 miles at one flight has been already covered by one such machine, and though at first the machine will be small and the operator so taken up in looking after the management of it that he will have no time to look about him, in time his movements to control it will become instinctive, and he will make a useful scout, whilst later, larger machines will be built and passengers will be carried who can devote all their attention to observation or to offensive operations, and then a new phase of war will be brought into being.

Such machines will move very rapidly, probably never less than 20 and up to 100 miles per hour; nothing but the heaviest storms will stop them. They will be small and difficult to hit, and very difficult to damage, and their range of operations will be very large, partly owing to their great pace and ability to move actually as the crow flies and partly because they will be able to carry fuel sufficient for long journeys, the power required to drive them at high velocities being comparatively small.

*The Future.*—These developments of ballooning proper are no longer the wild dreams of lunatic inventors, but serious problems of such great and immediate interest to every civilised nation that they deserve far more attention than has hitherto been paid to them. When, as in course of time must happen, they become fully developed, war will be so immediately brought to the very door of the citizen just as it is now brought to coast dwellers by the Navies of the world; that it will become amongst civilised nations a calamity far more real and far more dreaded than even at present, so that in the end it is probable that the aeronaut may prove to be the great peace-maker of the world.

Colonel LONSDALE HALE (late R.E.):—I will ask a question or two, and the reason for my doing so is because a few years before the war I was officially called upon to report on this question of balloon observation. At that time there was rather a strong feeling between the officers of Engineers and the officers of the Staff College as to who ought to be the observer—whether it ought to be the staff officer, or whether it ought to be the Engineer officer; and I am glad to find that the conclusions at which I arrived were exactly those at which the lecturer has arrived with his very great experience. It is a case of "eyes" or "no eyes" in going up in a balloon, and unless you send up an officer who thoroughly understands the whole situation, knows what is wanted to be seen, and is able to find out the information which is most important, you might just as well have a man up there who has no eyes at all. A remark

was made to me in the train to-day by a staff officer who has seen in peace training a good deal of balloon observation, that the amount of useful and valuable information which is obtained at present from balloon observations is very small. He did not tell me by whom those observations were taken, whether they were staff officers or whether they were balloon company officers. One of my recommendations to the authorities at the time was, that every Engineer officer who was to be a balloon officer should go for some months to the Staff College—three or four months—in order to get a broadening of his views with regard to war, to work out schemes, to take part in staff rides, and so forth; in fact, to learn, really, what was useful to those to whom he had to report. Therefore, I should like to ask Colonel Capper this question. He told us that there are three officers in each balloon company. Are they normal Engineer officers, or do they undergo a special training in what to observe, and how to report it? If they are only normal Engineers, accustomed to technical ballooning, I, with the highest admiration for my brother officers of the car, do not think their reports can be worth much. Therefore, I am anxious to find out from Colonel Capper whether these balloon officers are specially trained, because, according to my mind, a normal Engineer is no good up in a balloon. Then there is a remark in Colonel Capper's lecture which has very much surprised me, and that is, where he recommends us old people to go up in a balloon—the seniors—and to observe for ourselves; and he told us that in his experience only 1 per cent. was affected. All I can say is, that the military elderly members of the profession must have changed much in the last ten years. In my youth I was accustomed to great heights. I have actually gone up a perpendicular ladder and stood on the top of the cross of St. Paul's. As a Cockney, I played all over the roofs of Charterhouse. I do not know whether my friend Colonel Romilly was with me at Metz on one occasion, but I remember taking a number of young Staff College officers to the outer gallery at the spire of Metz Cathedral, which is about the most jumpy place one could be on. I remember eloquently pointing out the different battle-fields; but when I turned round at the end of my remarks I found that I was talking to the thin air! Those young fellows had lost their heads in that jumpy gallery of Metz Cathedral; they had not been able to stand it. And when I came down to look for them I found one absolutely wandering round a room, unable to find the door. That impressed me about these heights. Now with regard to my own experience of ballooning, what was laid down by the ballooning people in those days, when I was asked to go up in a captive balloon and report on this question? General Bruce Brine was the C.R.E., and he warned me in his office about the experience I might encounter. He told me that on a previous occasion a sapper, who went up with the observer, had to put his legs round the man's neck to prevent him jumping out; and he told me to be careful. I laughed him to scorn. I said: "Heights never affect me." All I can say is, that I went up 290 feet alone, and when I got up that 200 feet I hailed to the signalman to pull me down at once. I was seized with the same feeling, and if I had not been at once pulled down, I should have deliberately jumped clean out of the car; and there was no sapper to put his legs round my neck! In those days the sappers took a very different line, and warned you that it would be very risky indeed. Therefore, if you are going to have A.A.G.'s, D.A.G.'s, and G.O.C.'s stuck in your car and sent up, I think there will be an opening for promotion in the British Army. There is only one other question which I should like to ask Colonel Capper. He has described the

difficulties he has experienced in taking balloons about the country, the telegraph wires and so on, but he has not spoken of a densely wooded country. Now in peace manœuvres I have seen the balloon section absolutely impeded on account of having to go along a good road through a wood; with the slightest wind it is almost impossible. Colonel Capper remarks in his lecture that during the war of 1870 balloons were not tried for the purpose of reconnaissance.

Colonel CAPPER :—There are no records.

Colonel LONSDALE HALE :—I can assure Colonel Capper that they were tried on the Loire at Orleans.

Colonel CAPPER :—Free balloons, I mean.

Colonel LONSDALE HALE :—No, captive balloons. A captive balloon was tried and found to be absolutely useless on account of having to be taken through that large forest at Orleans. We have many wooded tracts in this country, and I should like Colonel Capper to tell us from his experience whether he does not think that a wooded country is one of the greatest obstacles to carrying about a captive balloon.

Colonel L. B. FRIEND, R.E. :—I should like to make a few remarks upon the very interesting lecture we have heard. Some few years ago when I was Secretary of the Royal Engineer Committee, I had some experience of the work which was going on then, and it has been very interesting for me to hear the progress that has been made since those days. One or two things I find rather difficult to understand from the lecture. The captive balloon seems to be at present confined to the small one-man lifting balloon, and on that account, no doubt, as Colonel Lonsdale Hale has said, it is very difficult with our present balloons to make observations. You want a practical, technically trained man, and also a man who has experience of General Staff needs, one man who knows what to look for, and the other man who can see what is to be looked for. I think at the present stage, when we have only these small one-man lifting balloons, the only use they can be put to is to have a trained Royal Engineer officer, who is constantly in the air, and also able to appreciate the features of the ground below him. I understand that is a very difficult point, and from the little experience I have had I found it was most difficult even to distinguish valleys from hills a long distance off, when they were not well marked. I have always thought myself the line to work upon would be to follow the French and have a larger balloon—capable of lifting two people, one who should be a trained observer, and the other a man in the confidence of the Commander-in-Chief, a man who knew what he wanted to find out. Colonel Capper also says that these captive balloons, as we have them at present—the small one-man lifting balloon—should be pushed forward with the advance guard. I think from what I have seen of those sort of balloons in service and in manœuvres, that it would be very difficult, considering what an advance guard has to do, and the amount of transport it has to take with it, to find room also for these captive balloons. Therefore, I think still more we should rather push forward on the lines of having a bigger captive balloon, capable of holding two men who should confine themselves to the observation of masses of troops, directing artillery fire, and to general signalling purposes between different branches of the same force which may be separated by several miles of ground. I think, as Colonel Lonsdale Hale has said, it is very difficult with our present balloons to get a staff officer to go up by himself. I must say I have never

experienced the difficulty he has told us about. I have been up once or twice myself for short distances. Generally, I have rather a weak head, and cannot even look over cliffs with safety, but I have never felt the slightest tremor in going up in a balloon because I had something to hold on to with my hands, and I think that fact makes a very great difference. I agree with the lecturer in thinking the percentage of people who feel badly after the first ascent is very small. There is just one other point I should like to allude to. In the last part of his lecture Colonel Capper spoke of aeroplanes. I should like to know why it is essential that the machines must go fast, and also whether it is possible to go down wind with them? Are they obliged to go up wind, and go fast, in order to get the necessary pressure to keep up?

Colonel HUGH PEARSE, D.S.O. :—I only rise, as did Colonel Lonsdale Hale, to ask Colonel Capper one or two questions. I did not quite understand the arrangement he proposed with regard to a balloon accompanying the advanced guard, whether it is to go inflated and attached to its wagon, or whether it is to accompany the advanced guard in its wagon and be inflated and sent up when an observation is desired. If the balloon is to be sent up when wanted, I should like to ask Colonel Capper if he could say, roughly, how long it takes to inflate it? He said it could be very quickly deflated if the advance guard wanted it no longer, or was compelled to retire. The other information would be also interesting, I think. Another point I should like to ask Colonel Capper, if he has no objection to telling us, is, what the balloon has done in the way of detecting gun positions in active service? Six years ago I saw a balloon being used for that purpose, and I think it would be extremely interesting to know what report the balloon officer was able to make. The balloon I refer to was used at Vaalkrantz, and there were twenty thousand people watching it. An interesting map was sent round at the time, prepared (I believe) by Colonel Sandbach, the intelligence officer, showing the position of all the Boer guns that surrounded Vaalkrantz. Some of us went over the ground afterwards, taking the map with us, and we saw that it was very correct; every gun had been located with practically complete accuracy. Perhaps Colonel Capper can tell us if the balloon made this discovery, or if the gun positions were found out in other ways? I should like further to ask him whether he considered the balloon on that occasion was able to go up high enough to be fully useful, because that was a doubt which some of us felt at the time? It is difficult to judge the height in a mountainous country, but the balloon appeared to us spectators not to rise high enough, and we thought that the balloonist could not have been as useful as if he had been able to ascend higher.

Major B. F. S. BADEN-POWELL (late Scots Guards) :—I also desire to ask a question or two, if I may. First of all, it has been mentioned, both by the lecturer and some of the speakers in the discussion, that it is often of very great value to get a balloon up at short notice for one definite object—to observe some one point. Some years ago I was witness of some interesting experiments, conducted with the hot air balloon introduced by the late Mr. Bacon and Mr. Maskelyne. I do not know whether any experiments have been made at Aldershot with hot air balloons, but this particular one struck me as being rather a useful arrangement. The balloon, which was only a model, although a good sized model, as far as I remember it, contained about 1,000 cubic feet,

and this was inflated *within one minute*. It rose to a good height in the air, but without any heating arrangement, so that it very quickly descended. It struck me, however, that a balloon rather larger than that, capable of carrying one man, might have gone up, and the man might have made a distinct observation and come down again within a few minutes; of course, provided that a suitable wind was blowing, and not one too strong or going in the direction of the enemy. I should like to know whether Colonel Capper has made any trials of such an apparatus? Another point referred to by the lecturer was, with regard to the prohibition by International Law of the dropping of explosives from balloons and aerial machines. I rather thought that was not the case, and it is important to have it definitely decided whether it is prohibited or not. I believe some measure was brought forward of a temporary character, that is to say, it was only to be in existence for one year. Then with reference to the difficulty of obtaining good trained observers for balloons, I have come across many officers who have said how greatly they would like a balloon ascent, but never get the opportunity. Why they do not go in for these balloon courses, which have been for some years in existence, I do not know; but there seems to be a certain amount of doubt whether they will really care about going through a regular course, although they might be very easily encouraged to make a few trials, by going up in a captive balloon, and after a very few ascents, they would get over that first fear which is always apt to haunt a novice in a balloon. Colonel Capper also mentioned the pom-pom as an enemy of the balloon. I cannot help thinking that the pom-pom is the natural enemy of the balloon, and it would be useful to know whether anyone had considered arranging the carriage of a pom-pom, so that the gun may be elevated to a considerable height to fire at a balloon, especially at a dirigible air-ship almost directly upwards. That would be a most valuable innovation, especially as air-ships are evidently coming to the fore in warfare.

Colonel E. A. ALTHAM, C.B., C.M.G.:—May I, as an old intelligence officer, say how delighted I am to notice that the lecturer proposes to bring about a closer union between the Intelligence Staff of the Army and the balloon detachment? Nothing assists the Intelligence Staff more than that all information, no matter in what way obtained, should pass through one channel in order to be collated, pieced together, and formed into one homogeneous whole, to be laid before the Commander of the Army. It is only by such close communication between the various branches of reconnaissance, whether cavalry, volunteers, scouts, or spies, that a thoroughly satisfactory system of intelligence can be arranged in the field. Perhaps one of the greatest proofs of the interest that has been taken this afternoon in the very able lecture we have heard, is the number of questions which various speakers have addressed to the lecturer. I am going to trespass still further on his good nature by addressing one or two more questions to him. He has touched somewhat lightly on a point which I venture to think is perhaps a most important point in future wars, namely, the question of the reconnaissance of entrenchments. Those of us who have endeavoured to study, with such means as lie in our power, the lessons of the war in Manchuria, cannot but be struck with the enormous importance of the use of the spade, whether in the attack or in the defence. The use of the spade in defence is, of course, a familiar and old lesson to all of us, but the use of the spade in the attack I venture to think is somewhat of a novelty, and that it will become a

most prominent feature in the battles of the future there seems to be no manner of doubt. Reconnaissance, therefore, of entrenchments, will be more and more important, and yet become more and more difficult. Modern entrenchments seek concealment, whereas old entrenchments did not seek to conceal themselves at all. We all know that the Boers in South Africa dug their trenches flush with the ground in such a manner that observation was almost impossible. In studying the South African campaign I recollect one instance, and one instance only, of observation of entrenchments from a balloon. It was a somewhat important one. Sir Henry Colville tells us in his book on "The Work of the Ninth Division" that his plan for the final advance of General Smith-Dorrien's Brigade, on the western face of Cronje's Laager, was based on observations made by an Engineer officer the day before, of the exact position of a certain Boer trench which flanked the Laager and protected the main Boer entrenchment from being enfiladed. The Engineer officer was able to assure General Colville that if that flank trench could be rushed—which lay some 500 yards in advance of the position Smith-Dorrien occupied—the whole of the Boer trenches could be enfiladed. On that report General Colville based his orders which resulted in Smith-Dorrien's very successful night advance. What I should like to ask the lecturer is: Can he say at what distance it is possible for officers from a balloon to locate entrenchments with any precision? It seems to me that will be a very important point, and of great assistance in future reconnaissance. As regards artillery fire, I venture to think it is a great deal a matter of constant practice, constant working together between balloon detachments and batteries. I had not the honour of being at Paardeberg myself, but I believe it was tried there, and that the results were not satisfactory to artillery officers, no doubt entirely from want of practice. I happened to come across a note the other day which a commander put down in his diary, to the effect that the practice was extremely confusing, and he had not been able to work it to his own satisfaction. No doubt from the Okehampton practice, which the lecturer has referred to, we may expect very good results in the next war. As regards the position of the balloon on the line of march, there can be no manner of doubt. It seems to me that its proper place is with the body for reconnaissance, that is, with the advance guard. It is no use putting a unit which exists for reconnaissance behind with the main body, whose movements and actions depend on the reconnaissance reports. The main body does not exist for reconnoitring; it exists for attack. It is the duty of the advance guard to reconnoitre. It seems to me only a matter of common sense tactics that the balloon detachment should be pushed forward as far as is consistent with safety.

Colonel J. E. CAPPER, C.B., in reply, said:—The questions are more numerous than I expected, but I am glad to see so much interest taken in the subject. With regard to the remarks of Colonel Lonsdale Hale, I do not think I can go anything like as far as he goes, and say that we might as well have nobody up in the balloon as have a man who had not a technical training and endowed with good judgment. A man who has good eye-sight, and who can use his glasses, can at least report events that are happening. But I entirely agree with Colonel Lonsdale Hale that the proper man to go up is the man who knows the situation, and can judge of it, and that man should be an important staff officer. I can also say that I would rather have a trained observer who would observe what he was told, than one whose observation was indifferent,

though he were better qualified to draw conclusions while in the balloon. One or two men I have come across seem to be absolutely at home in a balloon from the very start, and appear to work very well indeed; but the average man wants training, and a great deal of it. I was over in Paris the other day and saw the French balloon corps; they have a rather large balloon, which takes up, as has been recommended by speakers this afternoon, two or three officers, one of whom is always a staff officer. But their staff officers go there for a three to six months' course in observation, because the French War Department has established to its satisfaction the necessity of training an officer to observe from the air. My own experience with regard to it is, that it requires quite a deal of training to get very satisfactory results. In this country balloon officers do not at present go to the Staff College; they are the average officers of the Engineers; and all the training they get in what to observe and how to observe is what I can give them. But they have not the facilities offered them of studying the tactical branch of the work, which I think would be very useful for them to know, and, in fact, is really necessary for them to know, as long as we have no staff officers, or very few, who are capable of making satisfactory observations from a balloon. With regard to the question of the number of people affected by the motion, Colonel Lonsdale Hale rather hinted that I wanted to get promotion by inducing senior officers to go up in a balloon. It is a little difficult to explain in the course of a short lecture like this, everything that one means — I said affected under ordinary conditions — conditions of a moderate wind. Since Colonel Friend's time—certainly since Colonel Lonsdale Hale's time—I fancy we have made certain alterations in the management of a spherical captive balloon which rendered it a great deal steadier than it used to be, and since those times we have had a good many people up, and I honestly think that what I named was about the percentage that are really in any way seriously affected by a short observation in ordinary weather. If you try to go up when the balloon is about at its limit, it may affect you. Colonel Lonsdale Hale, I think, knows my brother very well, a man who has never professed to be much of a sailor, but he came to me after he had left the Staff College seeking a little balloon instruction, and I sent him up with another officer in what we call the limit of wind. He could not go up very high. He wanted to see whether he was affected, and he told me he was not affected in any way, and he could observe quite easily and comfortably. We have the recorded experience of a number of people that are taken up in ordinary captive balloons in shows and so on, and I do not believe there is one in a hundred of those who are affected at all. Of course, in those cases the weather conditions are not bad, but I do not propose that a novice should go up when the weather conditions are bad. When they are bad I myself have felt after being up for some time that I should like a glass of brandy on coming down. But there is nothing in a balloon, properly rigged, and on an ordinary day with wind up to fifteen miles an hour, that should affect anybody's stomach the least bit in the world. With regard to the question of a wooded country, I rather looked upon a wooded country as an obstacle, and if the country is very heavily wooded, it is doubtful whether anyone would wish to encumber himself with a filled balloon at all, because a balloon going through a wooded country would be a source of delay. The whole question is, whether the wind is with you or whether it is against you. If the wind is with you, all you have to do is to send your wagons to the other side in the direction of the wind, and let yourself go with the wind and

trail over the trees; but, of course, if the wind is against you, and you have a very thick wood the only thing is to empty your balloon or wait for the wind to change. You might leave one balloon behind and go on with another, and fill it so as not to waste the first lot of gas, and then it is possible, if the wind changes, for two men to take the balloon along in the air to wherever you want it. In saying we were aiming at a small balloon, I have perhaps rather put officers under a misapprehension. Our balloon is not necessarily intended to be a one-man balloon. On a calm day it is possible to take two men up, provided they are not too heavy, to 1,000, 1,200, or sometimes 1,500 feet; but ordinarily my liking for sending up one man alone is, that I find observation is so much easier. I do not know what the French find, but I find that if there is another man in the car he moves. If you can imagine your arm being shaken just as you are looking through a telescope, you can imagine the annoyance of having another man sitting in the basket with you when you are trying to fix your glasses on a definite object. I have found, and other officers who have tried it will agree with me, that it is very much easier to observe by yourself than when you are with anybody else. I think the remark about the position of the balloon with the advance guard has been much better answered by Major Altham than I could answer it, and I am glad to see Colonel Altham agrees with me. Colonel Friend also asked about the motor driven aeroplanes, whether they could go with the wind or against the wind in the same way. Now when you are free in the air, you must understand that all your motion is relative to the air. You may go at 50 miles an hour through the air, and yet you may hover about one place if the air is moving at 50 miles an hour in the contrary direction. On the other hand, if you are going 50 miles an hour through the air, and the air is moving 50 miles an hour over the ground in the same direction, the aeroplane will go 100 miles an hour over the ground. It does not matter whether the wind is with you or whether it is against you, but it does matter whether the wind is at the side of you or not, because you will be carried out of your course, and one side of the aeroplane gets the wind before the other side. It is only a matter of learning to steer and control the machine. Colonel Pearse asked about what time it took to send a balloon up into the air when it was lying unfilled on the wagons. Our record time is 21 minutes, and there is no reason why, with a well-trained detachment, it should not be done every time in 25 minutes, that is to say, if you are told, when you are on the line of march, to put the balloon up, and if the ground is suitable, you ought to be able to get an observer starting up in the air in 25 minutes. Colonel Pearse also asked about the balloon at Vaalkrantz. Unfortunately I was not serving with the balloons in the South African War, so that I really cannot answer that question. It did not come to my knowledge that the balloon had located with any satisfaction the position of the enemy's guns at Vaalkrantz, but I think it is generally conceded that the balloon with General Buller's forces was hardly a satisfactory article, and the men were not trained. I understand that the best of the equipment had been taken on by the company that went to Ladysmith. I doubt myself whether the balloon could get up high enough. However, I know that a balloon company officer made a very excellent sketch of Paardeberg, a sketch that was, I believe, entirely reliable, and found to be extraordinarily good and accurate. The hot air balloons referred to by Major Baden-Powell we have not tried, and I do not think we can expect to keep a varied stock of apparatus for every different kind of incident. We must have a general

service balloon, and the hot air balloon is not suitable as a captive balloon in a strong wind, the lift is very small, and the balloon has to be very large compared with our present balloon, which means that it meets with much more resistance from the wind. I should not myself care to go up in the air in any wind in a captive balloon with any heating apparatus, it would probably set light to the balloon. The question of officers being encouraged to go up was another point mentioned by Major Baden-Powell. We do encourage them. I take every opportunity of encouraging officers to go up in the balloon. When the balloons are out practising, manœuvring, and so on, if any officer comes along and says he would like to go up, as far as possible we send him up, and we have always given a most cordial invitation to every one to come and obtain training and experience, and see what going up in a balloon is like. I do not think the question of giving special elevation to pom-poms has been yet mooted. Colonel Altham spoke of the reconnaissance of entrenchments. It is very difficult to say at what distance you can see entrenchments, it depends on so many things; whether the entrenchments are well constructed, what the weather is like, and so on; but I think you ought to be able to make out at from four to six miles, given fairly good weather conditions, the general lines of entrenchment. I do not say that you will get them very accurately, but you ought to get them. When the King came down the other day to Frensham, it was a misty day, but some entrenchments were seen by a balloon officer about six miles off, although he did not locate them all. My own experience is, that entrenchments that are not manned, and where there is no movement at all round about them, are often very difficult to make out; but wherever there is movement, and the trenches are occupied, and there are people moving about in them, you can generally make them out after a bit at from four to six miles. I think those are all the questions I have to answer, and I thank you very much for the manner in which you have received my paper.

The CHAIRMAN (Field-Marshal Sir George S. White):—I believe it is in accordance with the custom here for the Chairma to give something of a summing-up of the different opinions which have been expressed; but it appears to me that the issues which have been placed before you this afternoon have been so clearly put, that far from in any way elucidating them, I think I should be merely confusing them were I to attempt any summing-up. There is one point which I think will probably come home to all, namely, the point which was started by Colonel Lonsdale Hale with regard to the training of staff officers. I think in this discussion we have found out that our neighbours, the French, make ballooning and accurate observations from balloons part of their curriculum.

Colonel CAPPER:—Not for all staff officers.

The CHAIRMAN:—At all events, it appears to me that that would be a very advantageous point for us to consider in the education of a staff officer. I think that the lecturer has pointed out to us that this military ballooning is a science altogether in its infancy. He has mentioned passenger balloons, and there is a certain consideration connected with that which I think is not altogether pleasant. I can imagine a man of gloomy forecast, perhaps suffering from mental neuralgia, about four o'clock in the morning picturing to himself armies of foreign nations standing waiting for a steady easterly wind in order to come across here

and descend upon our little island like a flight of locusts, altogether ignoring the grandest first line of defence that ever rode on the ocean; but I think at the same time it would take the imagination of a Jules Verne, or some such man, to give us a probable story of how the siege train would be transported under those conditions. But to take a more serious view, I think everybody here will agree with me that it is evidently not only essential but that it is absolutely necessary that this young science should be carefully watched in its evolution in foreign countries by a specially trained technical officer, such as I am glad to think our gallant lecturer of to-day is, so that the science may not creep away forward without our knowing what is going on; and that officer should also have a power of organisation to keep us abreast of the latest inventions both in the manufacture of balloons and the way to man them. There was one point which struck me in the lecture which I should like to bring to the notice of Colonel Capper. He talked about using homing pigeons from the balloon. Now when he mentioned that, it struck me that with an Army Corps marching there would be a great difficulty in settling where the homing pigeon should go to; he might fly home to his mate at some distance from the general officer in command. There is one point in which I agree with the lecturer most cordially, and that is the moral effect of a balloon. When I first read the lecture it awakened a chord in my memory which made me look up a long correspondence I had with Joubert, the Commandant-General of the South African Republican Forces. I wrote to him rather appealing against a system which his gunners, at all events, had of laying their guns upon the leading churches in Ladysmith—the churches especially—the town hall, and so on; and I think it was but natural that they should do so, for they were the leading points in our beleaguered position to catch the eye of the gunners. I received the following answer from him, which I think has never probably seen the light of day before. The letter is dated the 4th November, 1899:—"To the Commanding Officer of the British troops at Ladysmith: Honoured Sir,—In answer to yours of 3rd inst., just received, I beg to reply to the same, and to inform you that I regret that, under circumstances over which I have no control, certain persons unconnected with the present military operations should have been killed. When on Monday last"—that was the day of Lombard's Kop action—"the attack from Ladysmith was made on my position I found that the whole town was a fortified camp, as it appeared that there was no side to be seen from which my position and men were not fired on. We also observed that from the centre or right of the town a balloon was seen to spy out my position. This was a sign to me that I was within my rights in doing this, and if a shell fell where I did not wish it, then it was naturally through the facts and circumstances given by me, and I hope you will recognise this." I think that that is a practical confirmation of what the moral effect of a balloon often is. He, naturally seeing this system of observing everything he was doing, would not embark in an advance which otherwise he might have made, thinking it would be unobserved. In conclusion, there is one point which I think everybody here is agreed upon, namely, that we are under a debt of deep gratitude to Colonel Capper for the excellent lecture which he has delivered to us, which is full of interest and instruction. I will now put the resolution to you, that we accord him a vote of thanks. It is now my pleasant duty, Colonel Capper, to convey to you the unanimous gratitude of the audience for your excellent, instructive, and interesting paper.

## SOME LESSONS OF THE RUSSO-JAPANESE WAR.

By Général DE NÉGRER. Translated by permission from the  
"Revue des Deux Mondes."

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Continued from June JOURNAL, p. 809, and concluded.

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"Whoever, at this present time, still believes in the value of positions is labelled in advance by the demon of defeat. With armies of the present day mobility alone permits of escape from destruction. He who ties himself to a fixed point is crushed, and when in a battle, of from 25 to 30 miles of front, the general has succeeded in immobilising his adversary in his positions, victory will only be a question of hours; it cannot slip from him."

These lines were written in the *Revue de Paris* of the 15th June, 1898. The disregard of these truths has been the cause to the Russian Army of an uninterrupted series of defeats. Their persistence in clinging to some positions made one believe for some time that the Headquarter Staffs, having no confidence in the aptitude of the Russian soldier for skirmishing, wished to keep him in hand in defensive positions, or possibly launch him in compact order straight against the enemy in bayonet attacks. Starting from the 26th August, 1904, the numerical inferiority of the Russian Army can no longer be invoked as the reason for this defensive. At the battle of Liao-Yang the Russians had 220,000 men and 600 guns, the Japanese 190,000 men and 500 guns. At the battle of Mukden, on the 25th February, 1905, the Russians had 380,000 men and 1,400 guns, the Japanese 320,000 men and 954 guns; that is, 60,000 men less than the Russians. We are, then, compelled to recognise that the Russian conception of war is that of the defensive at organised positions, followed by counter-attacks. To strongly hold lines of works and trenches, to exhaust the assailant there, then, when the moment comes, to throw oneself with the bayonet upon him in order to overwhelm the broken remnants: such are the tactics which, from the beginning to the end of the war, have not ceased to be in favour. Two facts show how deeply these false principles had impregnated the minds of some generals. On the 25th August the Commander of the 10th Corps resolved to take the offensive the next day at 6 a.m. The Japanese were ahead of him, and attacked at 5 a.m. A general, meeting a foreign military attaché, said to him:—"It is very fortunate that they attacked us before we had moved out, because if we had both met on the march what would have happened? We should have had to fight without positions."

On the 2nd September the order to retreat was given. Before commencing its movement, the reserve was launched outside the works to attack the Japanese with the bayonet. It thus lost 1,800 men quite uselessly, then returned to the trenches in order to evacuate them subsequently during the night.

The Russian Army had no wish to profit by any lessons from previous wars. The cult of the bayonet was carried so far that it always, under all conditions, was kept fixed. By every means in their power the leaders tried to persuade the soldiers that before all else they ought to place their trust in the bayonet. They repeated to them the words of Suvaroff:—"The bullet is foolish, the bayonet alone is wise." In respect to the conduct of fire, the heresy was not less; up to the end of August, 1904, the Russians fired by volleys, as in the times of Apraxine.

The utilisation of ground has for the most part been limited to occupation of works and trenches. These, in place of being narrow and deep like the trenches of the Boers, were generally too large and insufficiently excavated. The Russians gave no heed to the experiences of the South African War. This war proved that the power of rapid rifle fire is such that it is not necessary to man the trenches with men elbow to elbow. One firer for every two yards is sufficient. Above that proportion the men get in each other's way, the fire is less effective, and a greater number of men are exposed to artillery fire. The economy of effectives thus realised allows of maintaining stronger reserves, and of reinforcing the flanks, which more than ever are the weak points. The Russians, always haunted by the fear of seeing their front forced, encumbered their trenches. The soldiers were sometimes in two ranks, thus exposing themselves to the action of shrapnel. At the battle of Lyao-Yang, General Kuropatkin held the victory in his hand. The army of Kuroki was exhausted. The Russians had several strong reserves intact. All that was wanted was to lead them to the attack. The rout of Orloff's division was only an episode in the battle. Did the Russian commandant allow himself to be influenced by this incident? In any case, in place of attacking, the army was ordered to fall back on certain prepared positions in the rear. It is useless to enter further into details. There are no lessons to be drawn from the Russian tactics. On the Japanese side it is quite different.

We have seen that getting into touch from a distance was accomplished by means of officers' reconnaissances, generally accompanied by some mounted men. But the zone of scouting was previously explored by spies. A Russian Report, of the date 23rd July—3rd August, 1904, thus states:—"In advance of the troops march always some Chinese, who examine the country with the greatest care, because the least negligence exposes them to immediate death.

"With this object, in the villages the Japanese carry off the father and sons of Chinese families. They hold the father as a hostage, while the sons are sent out to spy. Generally, they send two brothers in the same direction, but at different times, in order to compare on their return the reports of the one with the other. In case of disagreement the father is put to death. In the whole zone of approach of the enemy a network of native spies is thrown out. Their duty is to follow all the movements of the Russians. Death is the

punishment, not only of treason but also of inaccurate information. Behind the spies come the small patrols of cavalry, doubled by the infantry. It is thus that, for three or four mounted men, there are always four or five infantrymen. When the horsemen trot, their shadows (the infantry soldiers) run behind them. After the patrols come the leading detachments, then the troops formed in small columns, with considerable intervals between them. Ordinarily the cavalry does not march in advance of the infantry, but in rear of the leading detachments. It assists in covering the artillery in advance or on the flanks. When a detachment chooses a position, as soon as the spies have examined the ground and reported that no Russians are in the vicinity, the advanced sections extend in lines and move on the position, where they lie down in battle position. Then only the principal forces arrive, and at once the digging of the trenches begins. The work is very quickly carried out. At the same time, the distances of remarkable points in front and on the flanks are accurately measured—principally the places where the Russians could establish a line of fire. All the zone in front is divided into squares on plane tables foot by foot, prepared in advance, and on which the striking points are marked, showing opposite the distance, the number of the square, and the scale to be employed. These tables are then placed in every trench, and the officers point out to all the soldiers what is the mark on the table which corresponds to the real object in view. The sappers dig the communications towards the rear, make roads, construct foot-bridges, set the telephone wires up, and instal signal posts on the heights. They work the heliographs and other methods of signalling. Chinese, specially dressed, well paid, and armed with revolvers, were also employed as signallers. On the routes which the enemy ought to follow, ambuscades were placed. They consisted of two parties. The first, called "la porte," is formed of some skirmishers who should let the enemy pass freely without giving any sign of their presence; the second is composed of the main body of the troops. When the enemy's reconnaissance arrives close to the position, it is signalled and received by a rapid fire, and when it falls back it is in its turn attacked by the "porte."

In the earlier battles the Japanese infantry put into practice such portions of their regulations which had been copied from European Armies; but in the month of July, 1904, it abandoned for ever those antiquated methods of procedure. On the 15th June, at Vafangou, the infantry advanced to the attack in four lines, the first two skirmishing, the third in two ranks, the fourth line in columns of companies. In this order the famous decisive attack was delivered, so much praised by the old school. The losses were so ruinous that never again was this method of attack employed. The remnant of these intrepid troops could only reach the dead angle of the Russian positions, and remained there lying down until nightfall, when the Russians retreated.

"You were without doubt astonished," said a Japanese officer to a French officer at the conclusion of the battle of Liao-Yang, "at the differences you observe in the tactics which you have seen us employ in peace time. We were not the less so ourselves, because you know that our regulations are identical with those of European Armies; thus we commenced to manœuvre according to the books, and it was thus that we seized the lines of Nanshan on the 27th May in one day! But at the price of what losses! Our 3rd Division,

which was on the left and got no advantage from the help of the gun-boats moored in the Bay of Kincheou, was decimated. We have profited by this lesson, and, thanks to acquired experience, we move forward with less speed and, in addition, make use of cover."

The characteristic of Japanese tactics is, in reality, a most careful use of cover. "The Japanese use the ground in an ideal fashion," says a Russian report. "During the battle one sees nothing, not alone the movements of their reserves, but not even the links of the chain. One can say that they form part of the ground, and on occasions their troops have crawled on the ground for hundreds of yards, simply so as not to betray their presence. In every battle the flanks are the objects of the greatest attention; they have been for a long time convinced that in most cases it is impossible to pierce the front, and that it is necessary to operate by turning movements. Consequently they believe that these last are the most dangerous. Therefore they always have strong reserves on the flanks, not only to oppose any enveloping movement on the part of the enemy, but also themselves to envelope the turning movement of the enemy and paralyse it. The Japanese do not readily bring their reserves into action. They reinforce and thicken the chain as far as the ground and cover permit. During the day they absolutely avoid attacks with bayonet, and take fully into account its power when used by the Russians. For this reason, the skirmishing lines move rapidly back before the charge, or else carefully open out in such a way that the attacking bodies may be met by the rapid fire of the troops in rear. This manner of acting has been confirmed, as we know, by the neutralising of the attack of the 11th Regiment of East Siberian Sharpshooters at the battle of Kioulentchen."

When attacking, the Japanese infantry-man has no knapsack. He carries rifle, cartridges, spade, canteen, rations, and the canvas tente-abri slung across the shoulder from left to right.

Let us glance at the general principles of the attack. The ground having been reconnoitred by day by a few scouts, the approach for the attack is made by night. By the end of the night the trenches are dug, and the troops take shelter, having in advance of them some skirmishers, who have also dug themselves out some shelters. A further move forward is made the following night; the troops of the 2nd line occupying the trenches abandoned by those preceding them, and so in succession. Under the protection of the batteries, the fighting line thus advances to a short distance. Fire is only opened at short range. The advanced line is gradually reinforced to its utmost extent. Then the attack follows, generally by night, by a march executed, as far as possible, without a halt.

An old French officer, who had fought for more than a year as a volunteer in a Boer commando, and become, by dilettantism, a war correspondent in General Oku's army, followed in the firing line one of the most bloody episodes of the battle of Liao-Yang. His account gives a clear idea of the tactics employed:—"On the night of the 28th-29th August, the Japanese approached some Russian positions. On the 29th the advance was suspended during the day, and only resumed on the following night. The 3rd and 5th Divisions had received orders to seize the lines of Chiou-Chanpou, three miles to the south-west of Liao-Yang. The force consisted of 20,000 infantry, 36 mountain guns, and 36 field howitzers. On

the 30th, before daybreak, the 1st Battalion of the 41st Infantry Regiment, supported by the rest of the regiment, moved against the trenches, which occupied a spur situated on the extreme left of the Russians, and carried them at the point of the bayonet, after a bloody action. The 3rd Division, on its side, commenced its advance during the night. The infantry advanced in several extended lines, *échelonné* in depth. The direction was to the left, the successive lines being ordered to keep at right angles to the railway, and rigorously maintain their alignment.

The inextricable tangle of the Sorgho grass and the darkness constituted a serious difficulty; thus a little before dawn the first line found itself still  $1\frac{1}{2}$  miles from the Russian positions.

There it halted, and immediately dug trenches in order to obtain protection at daybreak against the Russian artillery, distant some 2,300 yards off. For this work the battalions had some tools carried on their backs like ours, and some battalion tools carried by four pack horses of the fighting train. On the 30th, at 5.30 a.m., the artillery duel commenced, which was carried on all day without result. The 3rd Division remained buried in its trenches on the plain without budging. The 5th Division, on the contrary, taking advantage of some natural cover in the ground and the occupation of the spur situated on the Russian left, attempted an attack, but was recalled after having suffered considerable loss." On the night of the 30th-31st, the 5th Division recommenced the attack, and this time delivered an assault on two mamelons, which were captured and recaptured three times. In this bloody *mêlée* two companies of the 41st were destroyed. The survivors of the 1st Battalion succeeded in clinging to the position. They were reinforced by the rest of the regiment. And our *dilettante* officer rejoined them. Here is what he says:—"You are arriving in good time," the captain of the leading company said to me; "Marshal Oyama has directed, in order to facilitate the enveloping movement of the first army, the seizure of the Russian position before night. The general attack is to take place shortly. We shall second it as well as we can by keeping up a fire on these trenches in front of us. Unfortunately we cannot bring our guns to bear on them."

"Comfortably installed behind the large rocks, we turn our glasses on the plain. Suddenly, in the rear of a slope, a thin yellow line appeared. It is the Japanese infantry, who, having placed their knapsacks on the ground, have commenced the attack. For this attack the lines were broken up into small groups of twelve or twenty men, placed under the command of an officer or non-commissioned officer. Each of these groups was shown the point of the enemy's position which it was to reach; it was the only indication received from those in command. The first line leapt from the trenches. The group-commanders sprang in advance, running with all their might to the nearest rise in the ground, where they threw themselves down. Their sections followed them, without preserving any order, each man's sole idea being to get as soon as possible to the spot where he could lie flat. I fixed my glass on one of these sections. It crossed first a plantation of Sorgho grass without being discovered by the enemy; but see it when it debouches in a bean-field. The yellow dots rush forward; men fall, some not to rise again. Now, before the whole Russian position one can make out the Khaki swarms approaching by rushes. The men follow the

leader, who selects the cover in advance and the line of advance to be followed in order to reach it. Often, profiting by favourable cover situated outside the line of march, one could see groups inclining to the right and left, taking the same route as the adjoining section, and then returning to its first line of advance. Thus, as early as the first halt, the original excellent alignment is broken. We could see sections dispersed on the glacis, some lying down, others crouching, others again full on the move. The nine hundred yards to advance up to the Russian accessory defences are crossed in this way, and it is there only that all that remains of the first Japanese line reforms under shelter of the earthen embankments clumsily thrown up by the Russians to protect their wire obstacles.

"When the first line of the assailants arrived half-way to its objective, the second line, in its turn, quits the trenches, where it had remained under shelter, and rushes for the glacis, utilising the ground and advancing as the first line had done. The third line follows the second, and so in succession. Six successive columns mount the slope, strewn with the bodies of the dead and wounded, and one after the other reaches the shelter of the protecting embankment, 100 yards from the enemy's trenches. During this time some volunteers cut the steel wire under the muzzles even of the Russian rifles. By creeping they succeed in opening some passages across the accessory defences, but very few of these heroes rejoin their companions! The company lying by my side keeps up as rapid a fire as possible; the Russians increase equally the intensity of theirs; men fall round us; but one listens neither to the whistling of the bullets nor to the crackling of the musketry, nor the more distant thunder of the guns. Standing up now in order to see better, we have only attention for the furious battle being carried on within 800 yards of us. All the Japanese line is lit up by the flash of steel leaving the scabbards. It is the last phase—the Assault! The officers once more quit the shelter to the cry of "Banzai," repeated by all the assailants. The advance is difficult but sure, in spite of the network of barbed wire, the *trous-de-loup*, and the pitiless fire. Some units are destroyed; others take their place. The flood may be checked for an instant, but its advance continues. See them now some yards from the trenches. Then on the Russian side the long grey line of the Siberian Rifles stands erect in its turn, fires a last volley at the enemy, and descends at a run the reverse of the mountain. Our company redoubles its fire on the retreating enemy, then the men quit their cover and join in the pursuit. The fire of the position in *échelon* takes us in flank. The company is decimated in an instant, and the sections with difficulty reform behind the protecting crest; but the battle is gained, the assault having lasted exactly an hour and ten minutes. The Russians only hold some points of the line in order to effect their retreat under cover of the night."

To march and attack by night, to burrow in the ground by day, such are the essential characteristics of the tactics rendered necessary by the power of the weapons of to-day. In the offensive the tool of the pioneer has become indispensable to each infantry-man. He must be trained to dig while lying down, and to bury himself thus little by little until he is quite sheltered. The trenches excavated by the advanced lines are successively occupied by the reserves. Finally, for the first time, we have seen steel shields used to protect the men

told off to cut the network of steel wire. At the battle of Mukden, as the ground was frozen, the infantry were provided with sand bags, which the men placed in front of themselves.

The general form of the attacks has never varied. Successive efforts, obstinately repeated, have only been employed. Sometimes they have succeeded in breaking down the most obstinate resistance. We may cite as an example the attacks of the night of the 4th March at Koudolizun, renewed thirteen times, and those of the 5th March at Kondiaza, where General Dainloff had to resist nineteen successive attacks.

The Russo-Japanese war has once more shown that offensive tactics can alone assure victory. An army forced to adopt the defensive, whether for political reasons or on account of numerical inferiority, should defend itself by incessant counter-attacks. We have already seen it in 1814; in this respect this campaign will always remain the most suggestive of examples.

Napoleon, manœuvring between the Allied armies, always attacked. His numerical inferiority never tempted him to take up a defensive position. Bar-sur-Aube, Craonne, Laon, Reims, Saint Dizier, are some offensive battles and some victories; but the war of 1904-05 equally proves that the old methods no longer suit the armies of to-day. One of the superiorities of the Japanese is to be found in the fact that their army was not wedded to the past by routine which we honour with the name of traditions. Now that the two years' service imposes on us a new law of cadres, we must take advantage of it to give the Army the organisation which fits in with the new tactical requirements. The logical deductions of the lessons of the war which has just concluded lead to the following conclusions:—

The complete reorganisation of our cavalry is essential; it is necessary to recognise the difficulty of this in advance. What we have been accustomed to call the "cavalry spirit" is opposed to fighting on foot, which has now become essential. For the old school to place foot to the ground is to lose caste; it sees in equitation an object, whilst it is only a means, and this accounts for its devotion to races, horse shows, tournaments, and its contempt for the fire-arm. The public, fascinated by spectacles provided for them, pushes it on this road, whilst the leaders, who understand the future rôle of cavalry, do not dare to speak for fear of being accused of heresy, and having their future prospects affected. Now, the question stands thus: The point is to get our cavalry to pay less attention to old-time evolutions and tournaments and to give more to the study of modern fighting. Of a truth, it will not abandon the old paths, in which it has reaped so many laurels, without regret, but these paths really only lead to useless sacrifices.

The time has come when the methods of war have to be changed. It is necessary that in dismounted fighting the cavalry should be prepared to sweep away the enemy, as it knew how to do when mounted in its dashing charges of former days.

First of all, the different divisions of the arm, cuirassiers, hussars, Chasseurs, etc., ought to be merged into one single cavalry force. The regiments will only differ the one from the other by the nature of their horses, which should be on the same footing. The uniform for all will be alike. The hat should be the broad-brimmed felt one used in the U.S. Army, giving protection from both the rain and sun,

and allowing the wearer to fire lying down; jacket with turn-down collar; loose trousers; lace boots and leggings, allowing men to march over ploughed land. In place of the cloak the poncho of the Mexican horseman of waterproof wool; it covers the man, can be folded in front of him on the saddle, and is unfolded without difficulty. For weapon, the infantry rifle, with the bayonet fixed alongside the scabbard of the sabre attached to the right of the saddle. In regard to this, it may be useful to recall that all the English cavalry has been armed with the infantry rifle, and knows now that in battle it has to act as infantry. The manner in which the rifle is carried is convenient, and does not tire the horseman as our carbine does; the butt rests in a sort of leather bucket suspended on the left side of the saddle; the loose slings are so attached that the muzzle of the rifle does not reach beyond the level of the shoulder, the upper buckle being fastened to the upper band of the rifle. Another system of slinging, that of Captain Anderson, is adopted in the Indian Army.

But let us return to the general conditions of the employment of cavalry. We know that scouting can only be usefully carried out by specialists. It requires the qualities of energy, *sang-froid*, endurance, good eyesight, the possessors of all which have to be carefully chosen. Each regiment has to form scouts, to give them certificates, to pick out the best among them in order to form, at the time of mobilisation, groups attached to the head-quarter staffs of the army corps and the Army. It will be necessary to give them the rank of non-commissioned officer, to induce them to re-engage, and to mount them on the sturdiest and best horses of the squadrons, which should receive each year the necessary number of thorough-breds. The simpler service of getting in touch with the enemy should be carried out by the ordinary patrols. Each squadron ought to be provided with two machine guns on the model of the Danish cavalry. The divisional artillery will include two batteries of 1½ inch automatic machine guns, known as "Pom-poms," and a battery of large calibre howitzers, as their being able to be dismounted in several parts, causes them to be as mobile as the lightest cavalry gun.

This organisation will permit of piercing the screens and of penetrating to a distance within the enemy's lines, by which alone useful information can be obtained. As regards its tactical rôle, we must now consider the cavalry as an arm which permits the officer in command to move to any desired spot with the *maximum* of rapidity the rifles, guns, and machine guns necessary to produce a decided result or guard against any contingency. Thanks to the speed with which they can move, masses of cavalry will play in future battles a preponderating rôle. They will form the reserves that the general will have under his hand and with which he can bring about tactical surprises. With the enormous fronts of the battles of the present day no other arm can arrive in time and produce this effect. By its fire suddenly blazing forth at an unexpected spot, it will change retreat into rout; then, mounted, sabre in hand, it will reap more trophies than it has ever done before.

Far from being diminished, the rôle of cavalry will then assume a capital importance. In order to fulfil it, cavalry must be numerous. Consequently it is of importance that it should not be scattered about on accessory duties, such as for escort, orderly, and outpost duty, close to the main body. The divisional cavalry, the squadrons of reserve, ought to be represented by all branches

of their arm. It would be expedient to apply without delay the organisation recommended by Napoleon in his "Notes on the Art of War" (3rd Note, Cavalry): "The scouts will be *Volitigieurs à Cheval* mounted on as small horses as possible. They will furnish the escorts for the superior officers and generals of their divisions, will escort prisoners and baggage, and will furnish the communication posts." We ought, then, to create in each infantry corps a company of mounted infantry. It is easy to find 25,000 or 30,000 horses of small height which at present are not requisitioned. These companies will only be formed at the moment of mobilisation, except in the covering troops, where they will always be ready. It will be sufficient to maintain in the other infantry corps the necessary saddlery, etc. All agriculturists are fit to mount these horses without preliminary instruction. The mounted companies of the South Oran are evidence of this. Four platoons of twenty-five men, of whom one is a sous-officier and two corporals, that is, 100 men a regiment, will be sufficient. There would thus be a platoon per battalion and one for the staff. Each regiment, having its scouts always with it, their duty in the field could not be easier arranged for.

The artillery must look two essential points in the face: First, to provide a very large ammunition supply; next, to construct a large calibre artillery, of which the batteries will be allotted to the *corps d'armée*. If, for some special reason, the general commanding the army wishes to mass these batteries, there is nothing to prevent his doing so; but in principle, this artillery should be a weapon of *corps d'armée*. In view of the extension of field-works, it will find constant employment in battle.

Indirect fire being the rule, the batteries ought to be provided with telephonic *matériel* and signalling apparatus, permitting the commandant, who is for the most part away from his guns, to be in constant communication with them. The transport of ammunition from the caissons to the guns ought to be made the object of special study. In the generality of cases the gun will have to be placed in battery between its two caissons; the sheltered area will thus be larger and the number of charges ready to hand will allow of waiting, in order to renew the supply, for lulls in the enemy's fire.

Night attacks will be constantly resorted to. Fire with combined elevations will often allow of artillery taking part, if it disposes of a sufficient number of search-lights. One six-horse wagon is sufficient for a group of three batteries. The wagon carries the gasoline motor, the dynamo, and the search-light. The latter can be carried by hand, so that it can be placed on the crest, while the motor, unreeeling its cable, finds shelter some way off. This somewhat large number of search-lights is necessary, because on land one can only obtain sufficient view by converging two points of rays from a distance on the same point. It will then be useful to use the search-lights of several groups in pairs. In that which concerns infantry, our regulations of the 3rd December, 1904, comply with the new requirements. The lessons of the Russo-Japanese war confirms the correctness of its principles and the advantage based on its spirit of taking the initiative and the offensive. As soon as completed by detailed instructions in night fighting, the employment of compasses with illuminated faces, etc., will be excellent; but the equipment of the infantry soldier must be modified. He cannot fight with a knapsack on his back. His load must be separated into two parts—that which he can leave

behind him (his change of clothes, etc.) and that of which he has need in order to fight several days in succession (cartridges, rations, and entrenching tool). Every infantry soldier ought to carry one of these tools; ours is an excellent one, as a man can dig with it while lying on the ground. It will be sufficient if three men out of four carry one, the fourth carrying a pick or bill-hook. But it is not less indispensable that each man should be provided with a *tente d'abri*. The enormous concentrations which precede battles, their long durations, oblige the troops to bivouac. Cantonments will be very rare. The *tente d'abri* alone allowed the Japanese to carry on an offensive campaign; without the tent the army of Kawamura could not have reached Mukden. It marched twenty-five days in an almost desert country in a Siberian temperature, which never rose above 15° below freezing point. During the scorching days of the battle of Liao-Yang, the reserves sheltered themselves under the small tents stretched on their rifles.

We have passed rapidly in review the modifications that experience shows to be necessary. It should be stated that the slowness of the Japanese operations must be principally attributed to the difficulty of renewing the supplies of provisions and ammunition. The consumption of these exceeded all anticipations. In order to preserve to our enormous armies their capacity of movement, two steps must be taken without delay:—1. The construction of refrigerating stores, which alone permit of feeding the troops; 2. The construction of 625 miles of narrow gauge (2 feet) railway on the Péchot system, with 120 or 130 motors. This system, which is used in our entrenched camps, permits of 6½ miles being laid down per day, on no matter what roads, and assures the connection with the stations of the large gauge railways. No other solution is now possible; the mobility of our armies depends on it.

We have only intended to call attention to the essential characteristics of this war. Although other lessons can be drawn from it, such as the necessary dispositions for relieving the fighting lines in battles lasting several days, the distribution, *echeloning*, and the distances of the reserves, in either the offensive or the defensive; all this would be beyond the scope of this study.

It is the duty of the general staffs to analyse the details; but from the whole it is clearly proved that the Russian soldier has preserved the qualities of endurance and of moral strength which Napoleon admired, and that, on the other hand, the extraordinary energy of the Japanese troops has deservedly won the admiration of the world. This was a striking demonstration of the power of moral forces. Now it is everywhere recognised that with the arms of the present day the individual value of the combatant has never been more preponderant.

It is exactly there that we ought to draw comfort for our hearts. The character of our soldier adapts itself marvellously to actual necessities. Numbers do not decide the victory. The Russians had at Liao-Yang 30,000 men and at Mukden 60,000 more than the Japanese. A certain numerical inferiority need not trouble our troops. They have proved more than once, and will prove again, that, even in a similar situation, they know how to conquer. Let us take steps to train up some *elites*, and let us not forget Marmont's words: "The French will always be equal to ten times their number with a leader in whom they have confidence, and whom they love."

NÉGRIER.

## THE BLACK SEA SHORE.

*By Colonel C. E. DE LA POER BERESFORD, late Military Attaché  
at St. Petersburg.*

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THE Black Sea province, stretching from Novorossisk to Cape Pitsounda, is the Circassia of our infancy, whose beautiful daughters were exported like any article of commerce, to become the wives of the Pashas of Constantinople. It was called by the Russians *Zemlya Tcherkèsov*, the land of the Tcherkesses, *Tcherkess* being the Russian equivalent of Circassian; but the word is a misnomer, for not only the Black Sea province but the adjacent countries of Abkhasia, on the coast; Suanetia, close under the crest of Shkàra; Mingrelia, due south and contiguous to Suanetia; and Imeretia, through which run the Rion and Krivily rivers, all produced Tcherkesses. These four countries, occupying together an area less than that of Switzerland, difficult of access, in spite of their proximity to the ports of Poti and Batûm, have remained the least tranquil of the Trans-Caucasian provinces. Their populations seized the opportunity of the unpopular war to recommence their revolt against authority. These mountaineers combine this rebellion—much in the same way as the Letts and Esthonians nearly 1,000 miles to the north, on the shores of a very different sea—with an agrarian rising against the owners of the soil. The difference is, that on the Black Sea shores the proprietors are of one and the same race as the tenants, whilst in the Baltic provinces the latter are of Finnish extraction, and the landlords Russo-German barons.

Kutais, the capital of Mingrelia, has been the centre of disaffection in the Western Caucasus, quite independent of the troubles that have shocked the world in Georgia, Erivân, and Dâghestân. The Governor and Vice-Governor of the province have lately been removed by order of the Viceroy of the Caucasus. When the history of this insurrection is known, it will probably be found that these officials, at heart loyal to Russian rule, threw in their lot secretly with the insurgents for fear of their lives. In fact, the existing state of affairs in Mingrelia and Suanetia much resembles that in Greece some decades ago, immortalised by M. Edmond About in "*Le Roi des Montagnes*," for Governor, police, soldiers, brigands, and peasants are all bound together by secret sympathies, whilst outwardly deferential to Russia and drawing their various pay and allowances. Kutais was kept in order by a regiment of Cossacks from the Kubàn district north of the great mountain chain, the 1st Khoper, or Grand Duchess Anastasia Michaelovna's Own. The 20th Infantry Division, the Staff of which is permanently in the town, sent three of its four regiments

to Akhaltzikh, Akhalkalâki, and Alexandrôpol, on the Turkish frontier. The danger lay, not in an invasion of the Sultan's troops, but in an uprising of the local reserve regiments. But the Russians until quite lately were, whilst apparently apprehensive of attack from the Trebizond direction, by the fleets of England or the armies of Turkey, quite confident as to the loyalty of the conquered races of the Caucasus. It was useless to point out the real danger to intimate friends. They considered warnings as mere blinds to dissimulate the action of perfidious Albion. Indeed, they would go further, and suggest that those who lived in Indian glass houses need throw no stones at the Caucasus. For a rising of the natives in India is an "act of faith" to the present day with the Russian Asiatic Staff in St. Petersburg. Its members merely smile politely if one attempts to disabuse them of this notion.

That there were, or even are, some grounds for this rooted belief it is impossible to deny. The Maharajah Dhuleep Singh, after having offered the splendid hospitality of Thetford to many of us, was treated most shabbily by the British Government. We who had robbed the Sovereign of the Sikh nation of millions refused to add a few thousands to his allowance. He retired to Moscow, whence he indicted a letter to the *Times*, in which he signed himself "The implacable foe of England"; but his hostility was ended by his death. Doubtless a few Imperial gold eagles made their way into India, and a few things are known at Simla about the occurrences of these times at Moscow and in the Punjab. The danger of a second Sikh war was probably never very imminent. I remember a clever caricature of Prince Victor Dhuleep Singh, when a cadet at Sandhurst. He is represented as dining at the Staff College mess, and when asked what regiment he wished to be gazetted to, replies: "I think I shall go into the Blues, as they don't go to India; as my father might stir up a rebellion there, and it would be rather awkward to have to fight against him."

But if we have been more fortunate in our rule in India than the Russians thought likely, there is no possible doubt that theirs has received some very hard blows in the Caucasus. The natives have at last begun to understand that they can get more by combination than by the division amongst themselves so sedulously, and to my mind stupidly, fostered by the late Viceroy. As I have pointed out elsewhere, the Russians "have singularly misunderstood the conquered inhabitants of the Caucasus, who surpass them in everything except the power of rifle and sword. To these chivalrous, excitable, poetic, high-souled, romantic, yet unpractical races, they offer the yoke of Slâv mysticism, dreamy and somnolent. . . . The result of Russia's fifty years' occupation has been to institute a chaos of war. She will probably now have to conquer the country over again."<sup>1</sup> Count Vorontzoff-Dashkoff telegraphed in January that the situation in the Caucasus was improving, inasmuch that the soldiers sent from Tiflis to open communications with Batûm, and thus between the Black and Caspian Seas, had arrived at Rion, the junction for Kutais; this is true. To do this they had to clear the tunnel on the Batûm-Bakû railway near Michaelovo. It had been closed by sending

<sup>1</sup> Blackwood's Mag., No. MLXXXII.

locomotives without drivers from its opposite ends to collide in the middle. The grenadiers were received with a hot fire at the village of Krivily, in the lovely gorge of the river of that name, by the insurgents, whom they dispersed; but around Kutais the disturbances continue. The Gùrians and Mingreliáns are in full revolt in the mountains, and until the summer comes there is no chance of the district being pacified. In Kutais itself the Chief of the Police was mortally wounded in the centre of the town, close to the open space near the bazaar, on 8th February. Although the attack took place in broad daylight within hail of the police station and barracks, the assassin escaped. The troops surrounded the town. That measure will scarcely suffice; the disloyalty of the people is deep-seated. All the reserve regiments drawn from the locality are tainted with it. As for the real Russian troops, of whom there are some 200,000 in the Caucasus, they are disposed over an area 700 miles in extent from west to east, and hate their garrisons. Although their fidelity is not doubtful, the difficulties of operating in a country four times as large as Switzerland and far less developed as to communications, are such as can scarcely be imagined by those accustomed to dwell in the plains of Europe or amongst our comparatively tiny Scottish or Welsh mountains.

A word on the geological formation of the stupendous range that, separating Europe from Asia, runs from the Black Sea to the Caspian Sea. The chain of the Caucasus is a fold or group of folds. It exhibits, in Fávre's words, a crystalline nucleus, fringed on either side by sedimentary rocks of later date, which have been successively deposited over it, not in unbroken sequence or conformity. The Caucasus is more like the Pyrenees than the Alps, but its peaks are higher than those of the latter chain. From under this mass of crystalline schists, gneiss, granite, and syenites, whose highest mountains, Shkàra and Dykhtau, are over 17,000 feet high, whilst some twenty other peaks overtop Mont Blanc; the volcanic lavas have burst an issue in two places, superposing two distinct masses of basalt and trachytes. The western of these masses is Elbrùz, or Mingi Tau, 18,370 feet above the Black Sea level, whose twin mamelons can be seen from the steamer when off Otchemchiry. The eastern is Kazbek, or Kasbek (16,546 feet), whose basalt crest is about 120 miles from the Monarch of the Mountains. The sugar loaf of Tetnùld, that, rising almost 16,000 feet above the beholder, forms so beautiful a feature in the view from Kutais, is merely one of the numerous crystalline rocks above mentioned, similar in construction and composition to those of the Alps, so well known to travellers.

It is curious to notice the horror of many Russians for mountains. I was often asked how I could bear to ride or drive among the cretaceous giants of Dàghestàn, the sight of which was an unending joy and delight to eyes wearied of the monotony of the plains. Elbrùz is celebrated by Æschylus as the mountain to which Prometheus was bound. In the museum at Tiflis the heroic form of the fire-stealer is represented by a modern artist in a splendid fresco. On the same wall, Jason, for whom the Grand Duke Nicholas Michaelovitch stood as model, is depicted in golden greaves and helm, about to embark on the grey and rapid waves of the Phasis. For the oldest of the rowers of the boat into which he is about to enter, my friend the late Dr. Gustavus Raddé sat. The Phasis, from whose banks

the pheasants, by the way, came, is the Rion of to-day. Ovid describes its waters swollen with melted snows (Met. VII., 6), *Rapidas limosi Phasidos undas*, than which can be no truer word-picture. In the upper reaches of this stream—for Mingrelia is the Colchis of old—were tributaries where, as now, the sand was washed for shining particles. The "golden fleece" was that of a ram dipped therein and obtained by Medea. Worse than the combats of the armed men who sprung up from the dragon's teeth sown in the fields of Æetes, the King, are the interminable broils and battles that devastate the modern Mingrelia.

The express vessels of the Black Sea Navigation Company that run from Odessa to Batûm stop only three times, but the slower steamers touch at many interesting and little-known places. At Psezûapé the first glimpse of the snow peaks of the Caucasus is obtained, for although the hills run down to the water at Novorossisk, they are tame and uninteresting in outline. Covered with wood, they hide still greater forests. At night the charcoal burners' fires dot the hills with tongues of flame. The *Krasnie Liess*, or Red Forest, a huge domain of half a million acres, is rented from the State by the Grand Duke Serge Michaelovitch. This tract of country extends for a distance of some 75 miles, from the Laba to the Kubân river, on the north slope of the mountain chain. In its varied mountains, plains, and valleys can be found all sorts of game. Here are chamois and ibex, fat quails in the sun-flower gardens, wild boar, *tûr*, bear, and mighty aurochs. This, the last of the European bison, is found in a wild state only in these parts, for the animals of the breed at Gatchina and Bieloviesch are comparatively tame creatures that have been acclimatized. The *zubr*, as the aurochs is locally called, is now extremely rare, and as the cultivators gradually creep up the mountains from the plains, he will become more so. Dr. Raddé told me that the Grand Duke computed that there were some three hundred aurochs still alive, "but," he added with a shrug of the shoulders, "*vielleicht dreizig*." It is really impossible to estimate the numbers of these shy denizens of the mountain forests, who have but the Dryades for companions. The Grand Duke Serge Michaelovitch has shot a few; but by no means bags one every year. M. E. Demidoff, Prince San Donato, accounts for one, of which a splendid illustration, "Dead Aurochs, *Bos Urus*," appears as frontispiece to his interesting book, "Hunting Trips in the Caucasus," published by Rowland Ward. Count Charles, now Prince, Kinsky gave me a thrilling account of another aurochs hunt. He had been stalking all the morning and had noticed the marks on the trees where the big bison had rubbed themselves, but had seen no game. Whilst resting for lunch under a rock near a stream, he heard a heavy snorting above his head, and to his regret, for his rifle was a yard or two off, saw a magnificent aurochs gazing quietly at him. He dashed for his rifle and gave him a bullet, but the bull had turned. He followed the marks of the blood over hill and dale for eight hours, but did not bag the game. His description of the splendid appearance of the animal, and of his own alternate hopes and fears, which he gave to me a few days after in the Hôtel de Londres at Tiflis, was enthralling. Those who know this clever and modest sportsman, the same who rode "Zoedone" to victory in the Grand National some twenty years ago, may imagine how interesting was the story.

The next port after Pseúápé is Sotchi. The vegetation is sub-tropical in its luxuriance, palms and eucalyptus on the coast, backed by magnificent trees on which the lianes hang, and to which the wild vines cling. The climate here and at the next halt, Adler, is hot and feverish. The mountains rise up like a wall, only a few miles inland, and the aspect is due south. At Gâgry the Grand Duke of Oldenburg has caused an enormous hotel to be built. The estate was for a time managed by a friend of mine, a Colonel in the Préobrajensky Regiment of Foot Guards. I believe it has been anything but a financial success. The house is a splendid building with every comfort and luxury. The resources of the place are but meagre, though the winter climate is superior to that of the Italian Riviera. But the sportsmen who might be attracted by the masses of cock and boar in the vicinity would be content with more modest surroundings, whilst amusements, as understood by the world or half-world of the Riviera, are absent. The peasants who come on board at these little places are not in the least Russian. Some of them are swarthy, turbaned Turks, in the quaint baggy-seated breeches affected by the faithful. Greek and Armenian traders, Abkhazians in the flowing *bourka*, or black felt sleeveless cloak worn all over the Caucasus, but originally made by the Lesgians; and women in yaskmaks. These people congregate on deck, where, if the weather be fine, they constitute picturesque groups, or, if the waves dance, heaps of misery. On the third day out from Sevastopol the ship lies off Novy Afôn.

Few places in the world occupy a more picturesque position than this convent, founded in 1876 by the monks of Mount Athos. An old church hard by has been restored and beautified, and many buildings—perhaps a little too new in appearance—cluster around. The winding road to the beach directly below the monastery passes between cypresses and olive trees, and gardens called into existence by the labour of the monks. It is they who row the twelve-oared galley that puts out to the steamer for the goods sent from Russia by the faithful of the Orthodox Church. No women are allowed in the precincts of Novy Afôn (New Athos), but the good monks are not so ungallant as to refuse them a place in the galley if they wish to land. As we steamed away, the sun, rising above the *Yaila*, or steep cliffs to the east, lit up the silver painted bulbs and domes of the monastery, that reflected their images in the placid waters of the Euxine. Crowded with turbaned Turks with their multi-coloured baggage, the big galley, responding to the regular splash of the oars wielded by the monks, formed a picture in the first plane. In the third were the summits of the lower spurs of the mountains, half hidden by the mists, now gradually pierced and dissolved. The steamer put her bows straight for the rising sun, and in a couple of hours covered the 20 miles that separate Novy Afôn from Sukkhûm-Kalé. This place has been the centre of disaffection in Abkhasia. It appears probable that arms and ammunition have been landed here and passed to the insurgents in Sûanetia, by the rough road up the Kodor Valley, that passes over the col or gap of Khukorski. The Russians attempted to prevent the universal wearing of arms in the Caucasus by an edict issued a few yaers ago; but it is not easy to change the customs of a people by *ukâz*. The Viceroy's order held good in the towns and in the plains of Georgia, but was a dead-letter in the mountains.

At Ochemchiry the lower mountain chain recedes from the seashore. The foreground is covered by the dense scrub that shows the tracks of the Ingûr and Rion rivers. But if the view of the country in the immediate neighbourhood is tame, that of the mountain chain is romantically wild. For hours the successive peaks pass in irregular grandeur before the eye. Here are the twin mamelons of Elbrûz. This, says Arrian, quoted by Freshfield in his magnificent work, "The Exploration of the Caucasus," is where "it is fabled Prometheus was chained by Hephæstus by the orders of Zeus." The name of Elbrûz was Strobilus. The ancient remains of Dioskûrias are recalled to mind by the Cape Iskûria of to-day. According to Strabo and Pliny, the mountaineers climbed over the passes before alluded to with the aid of climbing-irons. Douglas Freshfield obtained one that had been dug up in a cemetery near the Georgian military road, that triumph of engineering which, passing through the country of the Ossetes, or Ossetians, unites Tiflis and Vladikâvkas. The captains and crews of the steamers are generally very ignorant as to the names of the mountains; but as far as I could identify these from the map in my hands, they came into view in something like the following order: Psych Tau, Elbrûz, Baltakâia, Shkâra, Dykh Tau, and, in the far distance, the wall of the Adai-Koch, at least one hundred miles away from the deck of the steamer.

Poti is a deserted and fever-stricken port that has been killed by the competition of Batûm. On the latter place the Russians have expended a good deal of money and trouble. There used generally to be four or five British steamers at any time along the well-built mole. The *Messageries Maritimes* run a regular service from Batûm, *viâ* Trebizond and Sinope, to Constantinople and the west. The town is clean and well laid out. A mosque with slender minaret recalls the dominion of the Turks. Guns point out to sea from every direction. The forts on the water's edge are too near the town; their guns, mounted *en barbette*, offer an enticing target to a big ship in the offing armed with 12-inch guns; but some forts, hidden in the foliage on the hill, would be difficult to locate, and their plunging fire dangerous to shipping. The rhododendrons, alternating with the tea plantations, give an aspect of greenery that is delightful in the Tchakva Valley; but Batûm is principally interesting as the door to better things. Its population, composed of heterogeneous elements, is neither attractive nor hospitable; its hotels are not of the first order, though better than those of most provincial towns in Russia. The British Consul-General, Mr. Stevens, has a charming house on the new boulevard. Leaving Batûm at 8.45 a.m., we arrived at Rion in a few hours. Here we changed carriages, being not sorry to get away from our travelling companion, a Russian lady, who tore chickens to pieces with her fingers, throwing the bones out to windward, whence they fell in a greasy shower over the carriage. Kutais is reached at 1.10 p.m. The town is most picturesque, and is surrounded by vineyards. The Rion, swollen by the rains, rushed under the stone arches of the old bridge, close to which were the quaint wooden buildings of the bazaars. In the unpaved and unmetalled streets, tiny oxen drew *ârbas* and "dug-outs," formed of a single giant tree, through the deep mud. In such a wine-press did the must foam, 2,000 years ago, "round the white feet of laughing girls, whose sires had marched to Rome."

It is possible to obtain very good phaetons with three horses harnessed abreast—*troika*, in a word—at Kutais. It was my wish to drive from here to Abas-Tumân, across the Southern Caucasus range, whose snow-clad sierra forms the horizon in the landscape; but unfortunately the snow in the pass was too deep, and the journey had to be abandoned. So we consoled ourselves with a drive to the monastery of Gelâti, only ten or twelve miles to the north of the town. The road leads through the beautiful valley of the Rion, whose giant walnut trees furnish much wood to the Parisian cabinet-makers; then, ascending the hill, passes over the col dividing the water-sheds of the first range. From here a magnificent view is obtained to the north. In the foreground the noble limestone castle crags rise in curious unconformity, the strata now horizontal, now twisted in every direction, now almost vertical. At our feet was the deep gorge studded with myrtles and rhododendrons, through which Rion's glacier-swollen waters rushed noisily. In the distance stood out against the cobalt sky the sugar-loaf sentinel of Tetnûld, or Balta-Kaia. To the south was the chain of the Lesser Caucasus, and between it and us lay the plains of Phasis, the Colchis of Æetes, the King. The church of the monastery at Gelati is a beautiful structure with Norman dog-tooth arches, and a splendid mosaic depicting a scene in the reign of King David the Renovator, some 800 years ago. Amongst other precious relics is shown the crown of the Imeretian Kings. Close to the church are the magnificent iron gates of Ganja, now called Elisavétpol, that the Renovator carried off to decorate his own tomb. From this spot we could discover the road winding up the valley of the Tskhal-Tzitheli (Red River), an affluent of the Krivily, which leads to the Mamisson Pass, over the Adai-Khokh, and down the gorge of the Ardon to Vladikâvkas over the mountains.

It is curious to recall the peaceful scene now when the country is torn by dissensions. The men were at work in vine-yards, the women spinning at the cottage doors, the village smith hammering quaint-shaped utensils of copper, red as gold. This country produces all things that man can desire—bread, wine, milk, and honey. What is to be its future? Are the Imeretians to disappear like their neighbours the Abkhazians, leaving scarcely a trace behind them? They are the most beautiful amongst the Caucasians, the progenitors of the white race. As we drove back to Kutais we passed four men, evidently representing three generations, in charge of a wine press drawn by black water-buffaloes. Each of these fellows, from the grey grandsire of seventy to his grandson of eighteen, were types of manly activity and beauty. The women and children were dark-haired angels and cherubs, with soft and melting eyes. The disastrous policy of inflaming the tenants or occupiers against the landlords or possessors of the soil has been carried on by Russia with fatal results. For the moment both have sunk their grievances and are united against the common enemy. There are practically no signs of a termination of this war against authority. Far off in the Suanetian valleys, where the azaleas stand out bright against the giant ferns, the charcoal is being burnt in stacks. The mountaineers will bring down sulphur, and saltpetre is sold in Batûm or Sukkhûm for the ostensible purpose of curing the flesh of the local hogs. It is difficult to prevent the manufacture of explosives; but why should *kindjals*, or sharp daggers, and guns and rifles be made in every bazaar from Kutais to Tiflis?

The Russians seem unable to decide on either a policy of conciliation or repression. The latter is difficult. The bridges over the mountain streams can be destroyed by the peasants, who retire to their fastnesses in the limestone caves that they share with the bats and vultures. The heavily-laden Russian soldiers cannot follow them. The conflict may go on for years, as did that against Schamyl in Dâghestân. These mountain races do not seem fitted for self-government. History shows us that they have been in succession the sport of Armenians, Georgians, Persians, Turks, and Russians. Probably the best way out of the difficulty would be to conciliate the local chieftains or princes, the Dadish Kilians, the Atars, the Bagrations, and others, whose influence with the people is much like that of the Scottish chiefs of clans. But this is an alternative that the Government of the Emperor does not seem inclined to consider.

## SOME STRAY THOUGHTS BY A SOLDIER.

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IN these days it is probable that officers give more thought to their profession than used formerly to be the case. As a body it is very doubtful if there is a more truly patriotic collection of gentlemen in existence.

How is it, then, that the British Public seem to have so little confidence in their Army, and especially with regard to the brains of the Regular officer? And how is it that the officers have a general feeling of uneasiness and doubt as to their treatment by the Government? The public abuse the War Office, and the War Office authorities no doubt think a good deal on the subject of Party Government, which so often in the past, and even at the present time, has been so detrimental to the good of the Service.

If people would consider for one moment the administrative problem alone which faces the War Office, they would not be so persistent in their abuse. The numerous divisions of the armed forces of the Empire make the smooth and rapid working of the War Office machinery difficult in peace, and in case of a war on a really large scale the difficulties are increased a hundred fold.

Let us just glance for one moment at the component parts of our warlike machine. To begin with, we have our Regular Army, some of it at home, some of it in our Colonies, some of it in India. The smooth working of such a widely-dispersed Army would tax the powers of any staff in Europe.

We have also the Militia, Volunteers, and Yeomanry, all in the United Kingdom, all of them serving under different conditions of service and receiving different rates of pay.

Besides these, our Colonial Office keeps up small armed forces on both the East and West Coast of Africa. These are administered and paid by the Colonial Office, but the officers are supplied by our Regular Army.

The Egyptian Army also makes large calls upon our corps of officers.

We have also the Indian Army, administered and paid by the Indian Government.

In addition, most of our Colonies maintain armed forces of their own; these again vary in nearly every Colony, both with regards to terms of service and rates of pay.

This casual summary of some of the units of the fighting strength of our Empire shows us a few of the problems facing our Army Administration. Has any Army in the world such a conglomeration to deal with?

It cannot be denied that if we would only throw aside some of our old traditions we could devise a scheme that would bring all these different units into line. It is not so long ago since Japan abolished her antiquated system and introduced modern ideas, and

she has had no reason to regret her action. Almost all good schemes are simple, and we can safely say that there are scores of officers who, if given a free hand, could produce a good working scheme, and one that would meet the requirements of the Empire, and also one that would cost less than the present existing chaos.

No one can accuse the British officers of having been responsible for raising and maintaining all these different sorts of soldiers. The Militia, Volunteers, and Yeomanry, to take the British Isles alone, were all called into existence by some national emergency. Unfortunately for us, the nation refused to part with its new toy when the emergency had departed. It would not be surprising if nothing but a national emergency, followed by a national calamity, will ever clear the air.

It is far from the writer's intention to cast any slur on our Auxiliary Forces, but it is an undoubted fact that the existence of so many different Services do not make for the strength of our land forces. What would the Admiralty say if they were saddled with such a cumbersome machine and were given Auxiliary Navies corresponding to our Militia, Volunteers, and Yeomanry?

Wide-reaching reforms are necessary if we ever wish to get the full military value out of the manhood of the Empire, or even if we desire to receive value for our vast Army expenditure. It stands to reason that we must simplify our system. Surely the nation must realise that such a complicated machine as ours would be thrown out of gear if put to any rude test; and no one can deny that war is a rough trial.

Any attempt at reform, when it touches any of our old traditions, is, however, received with a tempest of abuse. Not so very long ago Mr. Arnold Forster was credited with a desire to abolish some of our Militia battalions. The champions of the Militia were up in arms at once. *Esprit de corps* is a good thing, but it can be carried too far, or rather we may say that it can be focussed wrongly. The ideal *esprit de corps* would seem to be that which is prevalent in all our great Public Schools. There we find the greatest enthusiasm over a house cricket match; but when the school plays another school, then we find all this enthusiasm merged into pride for the school as a whole. In the same way let us by all means encourage *esprit de corps* throughout our Regular Army and Auxiliary Forces; but we should never lose sight of the main principle, and *esprit de corps* for the whole Army should be fostered by every means available. It is far from impossible to have *esprit de corps* for the unit running side by side with that for the British Army generally. If this spirit was more prevalent throughout the Service the Army would gain immensely and the lesser units would lose nothing.

It is mostly owing to our mistaken ideas of *esprit de corps* that all attempts at real Army reform are so promptly crushed. If every Britisher was imbued from his childhood upwards with *esprit de corps* for the Empire, or, in other words, with "Patriotism," we would probably find our Army Reform an easier problem than it is at present.

If one of our Secretaries of State for War was convinced that it was sound policy to have a Foreign Service Army and a Home Service Army, and in order to carry this scheme out it was found necessary to amalgamate our present Auxiliary Forces with the pro-

posed Home Army, would he be able to pass such a measure through Parliament? It is most doubtful. Even though it might be obvious to the dullest intellect that such a step would be for the good of the Empire, the local interests involved would probably carry the day against him.

As the case stands at present, the British officer has produced as fine a warlike machine as is humanly possible with the material at his disposal; but for all that it is bad, and a disgrace to the nation.

We complain bitterly that our Army is the most expensive in Europe. So it may be, but whose fault is this?

As our Colonial Empire necessitates a portion of our Regular Army serving abroad, no one has ever suggested that we should have anything but voluntary service for the Foreign Service Army; but it is quite another question with regard to our home-serving troops.

We as a people have deliberately decided that the individual does not owe personal service to the State; we have so far preferred to pay additional taxes for the upkeep of a Voluntary Army. Foreign Armies are cheap because their people have chosen to undertake compulsory or universal service. Both systems have their advantages and disadvantages; but it is obvious that the whole foundation of the voluntary system is founded on the supply of recruits being not only sufficient in numbers for the requirements of the Voluntary Army, but also that these recruits should be physically and mentally fair average representatives of the manhood of the country. It is only necessary to read the annual reports of the Director of Recruiting to see that our voluntary system is a failure. Continental nations, on the other hand, have at any rate, the satisfaction of knowing that their Armies are physically and mentally worthy of representing their countries.

Whatever form our Army Reform eventually takes, if it takes any at all, let us hope that it will trend in the direction of amalgamating our different home units. No sane soldier, who has ever given a thought to his profession, would like to be in the position of the British general who, in the event of a raid or invasion of the United Kingdom, had to face a modern European Army with the *matériel* at the disposal of Great Britain at the present moment. Just think of it, and imagine the feelings of the general when he thought that on the result of the fighting depended the honour and the future of his country.

J.G.

## NAVAL NOTES.

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**HOME.**—The following are the principal appointments which have been made: Captains—A. W. Ewart to "Doris"; E. R. Pears to "Arrogant"; H. H. Bruce to "Blenheim"; R. H. S. Bacon, D.S.O., to "Victory," for "Dreadnought"; C. G. F. Cradock, C.B., M.V.O., to "Swiftsure"; A. A. C. Galloway to Command of Sheerness Gunnery School; L. G. Tufnel to "Irresistible"; E. G. Shortland to "New Zealand"; C. E. Tower to "Donegal"; G. E. Patey, M.V.O., to "Implacable"; E. R. Le Marchant to "Nile"; N. C. Palmer to "Highflyer"; E. G. Barton to "Royal Oak"; G. A. Ballard to "Terrible."

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The first-class cruiser "Andromeda" arrived at Plymouth on the 13th ult., from China, on which station she has been relieved by the first-class armoured cruiser "Monmouth." She has been temporarily attached to the Red Fleet for the Manœuvres.

The first-class cruiser "Argonaut" having embarked relief crews for the guard-ship "Tamar," at Hong Kong, the second-class cruiser "Challenger," of the Australian station, which is to recommission at Hong Kong, the sloops "Clio" and "Cadmus" to be recommissioned for a further term of service on the China station, and the river gun-boat "Kinsha" left Plymouth on the 9th inst. for Hong Kong.

The "Montagu" still remains on the rocks off Lundy Island, but the work of lightening her, preparatory to the attempt to refloat her, has been carried on steadily. All her guns, with the exception of her four heavy barbette 12-inch guns, have been removed, as well as much of her armour plating, but it seems to be too early as yet to forecast whether the attempt to float her will prove successful.

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**Steam Trial.**—The new first-class battle-ship "Africa" has successfully completed her steam trials. At the thirty hours' trial, at four-fifth power (12,600-H.P.), the mean results were as follows:—Draught of water: forward 26 feet 4 inches, aft 27 feet 1½ inches; speed (mean of six runs on the measured course) 15·54 knots; revolutions, starboard 115·7, port 115·8; I.H.P., starboard 6,337, port 6,510, total 12,847. At the eight hours' trial, full speed, the results were as follows:—The contract I.H.P. was 18,000, but the actual results were 9,410 starboard, 9,261 port, giving a total of 18,671. The mean speed of six runs on the measured mile was 18·953 knots. The steam pressure in boilers was 199 lbs. per square inch, and the vacuum in condensers 26·6 starboard, 27·2 port. The revolutions per minute were 129·1 starboard, 128·8 port. The mean coal consumption per I.H.P. per hour was 1·87 lbs. The total loss of water was 10·19 tons. The trial at one-fifth power had to be temporarily abandoned in consequence of foggy weather.

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**Launches.**—The new first-class armoured cruiser "Minotaur" was successfully launched on the 6th ult. at Devonport Dockyard. Her dimensions are as follows:—Length 490 feet, beam 74 feet 6 inches, mean

draught, 26 feet, and displacement, 14,000 tons. Her engines of 27,000-I.H.P., which are being made by Messrs. Harland and Wolff, of Belfast, are of the triple expansion type. The speed for which the vessel is designed is 23 knots. The boilers, 25 in number, will be of the Babcock and Wilcox water tube type, arranged in five separate boiler rooms, and loaded to 275 lbs. per square inch. Protection is afforded by a belt of 6 inches Krupp armour, tapering forward to 4 inches and aft to 3 inches. The barbettes will be protected by 7-inch and the conning tower by 10-inch armour. The armament will consist of four 9·2-inch guns in two barbets; ten 7·5-inch guns in 10 barbets; sixteen 12-pounder 18 cwt. Q.F. guns; two 12-pounder 8 cwt. Q.F. guns; and five Maxims. There will also be four submerged torpedo tubes amidships, and one at the stern. The launching weight of the ship was about 6,600 tons.

The "Gadfly," the first of the new coastal destroyers ordered in connection with last year's naval programme to be completed, was last month successfully launched from the Chiswick Yard of Messrs. John I. Thornycroft and Co., Limited. The dimensions of the destroyer are as follows:—Length, 168 feet; beam, 17 feet 6 inches; draught, 5 feet 11 inches. The contract speed is 26 knots. The "Gadfly" is one of five sister vessels now building by Messrs. Thornycroft, fitted with turbine machinery of "Parsons" type, and "Thornycroft" water-tube boilers. The armament will consist of two 12-pounder Q.F. guns, and three torpedo tubes. The vessel was launched with machinery on board.

*The Naval Manœuvres.*—The second and final phase of the Manœuvres came to an end on the 2nd inst., but it is absolutely impossible, from the information at present available, to form any idea as to how far success attended the operations of either the Blue or Red Fleets. It is, moreover, quite possible that the Admiralty may not care to make public what they may consider to have been the lessons taught by the Manœuvres, and they alone will be in a position to form an accurate judgment.—*Times and other Sources.*

AUSTRIA-HUNGARY.—The following appointment has been made:—Rear-Admiral L. von Ziegler to command of specially constituted division for the Manœuvres.—*Militär Zeitung.*

*The Naval Estimates.*—In his evidence before the Budget Commission, Admiral Count Montecuccoli, the Commanding Admiral of the Navy, stated that the displacement of the new battle-ships would be 14,000 tons, a displacement which would prove sufficient, as employment of the Austrian fleet was limited to Mediterranean waters. In addition, he proposed the laying down of three battle-ships, which would take the place of the "Tegetthoff," the "Kronprinz Erzherzog Rudolph," and the "Kronprinzessin Erzherzogin Stephanie," which have been this year struck off the effective list of the Navy. These three new battle-ships will raise the number of the effective battle-fleet to twelve. Austria had had to follow regretfully the movement in increasing the displacement of battle-ships, but it was hoped that these new 14,000-ton battle-ships would not be far behind the larger ocean-going vessels of 18,000 tons, which other nations were laying down. The Admiral further declared that the plans for the submarines were drawn out, and they would be constructed out of the extraordinary credit which had been asked for the purpose.

*The Manœuvres.*—The following additions have been made to the Evolutionary Squadron, under the Command of Rear-Admiral von Jedina, for the Manœuvres. To his squadron, consisting of the battle-ships "Habsburg," "Árpád," and "Babenberg," with the first-class armoured cruiser "St. Georg," was attached on the 15th ult. the Reserve Division, under the command of Rear-Admiral Haus, consisting of the battle-ships "Wien," "Monarch," and "Budapest," with the torpedo-vessel "Komet." As a further reinforcement, the following ships were commissioned last month, and have joined the squadron:—"Erzherzog Karl," armoured cruiser "Kaiser Karl VI.," with the small protected cruisers "Zenta" and "Aspern"; this division is under the command of Rear-Admiral von Ziegler. The Manœuvres of the combined squadron will last for some three months, concluding with combined Manœuvres with the Army, at which the Emperor Francis Joseph will be present, which will take place to the north of Gravosa, between the 11th and 14th September, according to present arrangements. On the part of the Army, some battalions of the infantry regiments garrisoning South Dalmatia, will take part, with two battalions of fortress artillery, two mountain brigades, two Landwehr infantry battalions, and a squadron of riflemen and pioneers.

The Evolutionary Squadron, on its return in May from a cruise in the Eastern Mediterranean, carried out some exercises in conjunction with the Reserve Division and some torpedo boats. To this latter division was given the duty of defending the entrance to the Bay of Medolino—to the south of Pola—by means of mines, booms, etc., against the attack by the Evolutionary Squadron, aided by a torpedo flotilla, consisting of the destroyers "Szigetvár," "Trabant," "Kaïman," with three first and nine second-class torpedo-boats. This was followed up by tactical Manœuvres of the combined squadrons, scouting, and wireless telegraphy exercises, with night attacks by the torpedo flotillas on the squadron under weigh. The Minister of Marine, Count Montecuccoli, was present during the Manœuvres, with his flag flying in the torpedo depôt-ship "Pelikan."—*Militär Zeitung*, and *Marine Rundschau*.

FRANCE.—The following are the principal appointments which have been made:—Capitaine de Vaisseau—A. V. Adam to "Duguay-Trouin." Capitaines de Frégate—A. F. Banon to "Rance"; E. M. Ronin to Command of 1st Submarine Flotilla of the Channel.—*Journal Officiel de la République Française*.

*The Naval Manœuvres.*—Admiral Fournier will this year again hoist his flag on the first-class battle-ship "Brennus," the flag-ship of Rear-Admiral Germinet, Commanding the Reserve Division of the Mediterranean Fleet, and has selected Capitaine de Vaisseau Chocheprat as his Chief of the Staff, who served in the same capacity under him last year. In addition to the Mediterranean Active Squadron and Reserve Division, and the Squadron of the North, full details of which were given in last month's Notes, a division of ships in reserve at Toulon has also been mobilised, and will take part in the Manœuvres, composed of the following vessels:—

Coast-defence battle-ships.—"Caïman," "Indomptable," "Requin."

Third-class cruiser.—"Alger."

This division will be commanded by a Capitaine de Vaisseau. Admiral Fournier will also have at his disposal for the different

operations on the coast the five flotillas of the Mediterranean, of which the offensive divisions have been mobilised. The crews of the Reserve Division and of the mobilised ships, will be completed to an active service footing, and the reservists, who were called out on the 2nd inst., will complete the vacancies, those not required for this purpose being borne as supernumeraries in different ships; the reservists are to be disembarked on the 26th inst. at Toulon, but the fleet will not be dispersed until the 4th August. The following is the official programme :—

- July 3rd.—Manœuvres commence, the three squadrons taking up their positions at the points already indicated;
- „ 5th.—Concentration of the fleet at sea;
- „ 6th.—Arrival of fleet at Algiers, coaling;
- „ 7th.—Coaling;
- „ 8th.—Leave Algiers.
- „ 9th to 13th.—Tactical exercises, battle exercises, and regular fleet drills;
- „ 13th.—In the morning the Squadron of the North will anchor at Philippeville, the Mediterranean and Reserve Squadrons at Bône. Partial coaling;
- „ 14th and 15th.—Remain at anchor off these two ports;
- „ 16th.—Weigh at daylight, re-concentration of fleet. Night exercises with torpedo-boats and submarines from Bizerta.
- „ 17th.—Arrival at Bizerta;
- „ 17th, 18th, and 19th.—Coaling;
- „ 20th.—Proceed to sea;
- „ 21st.—Attack on Bizerta;
- „ 22nd.—Anchor off Bizerta;
- „ 23rd.—Proceed to sea. Scouting, boom and firing exercises;
- „ 26th.—Return to Toulon during night of 26th—27th;
- „ 28th—30th.—Remain at Toulon, coaling;
- „ 30th.—Proceed to sea at night;
- „ 31st to August 3rd.—Tactical exercises;
- August 3rd.—Return to Toulon;
- „ 4th.—Break up of fleet.

This is the last year Admiral Fournier will command the fleet, as he has to retire for age, next May; and the question is already being asked as to who will succeed this distinguished officer, as the head of the fleet. It is believed that Vice-Admiral Caillard, who is only sixty, and has thus five years more to run, and who last October vacated the appointment of Commander-in-Chief of the Northern Squadron, will be the officer selected.

As already stated, the Manœuvres began on the 3rd inst., the three forces composing the fleet effecting a junction at sea off the African coast on the 5th inst., and then proceeding to Algiers.—*Le Yacht and Le Moniteur de la Flotte.*

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*Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (concluded).—The Programme of the New Fleet.*—M. Bos next draws attention to the new fleet proposed by the Minister of Marine, which it is intended to complete by 1919, starting from the present year. The fleet will be composed as follows :—

Five squadrons of six battle-ships each, with four units for relief purposes, making a total of 34 battle-ships.

Five divisions of three first-class armoured cruisers each, with three units for relief, a total of 18 first-class armoured cruisers.

Twelve second-class armoured cruisers for foreign service, with six spare ones or for unexpected duty, a total of 18 second-class armoured cruisers.

A scout per squadron, with one spare one, a total of 6 squadron scouts.

A destroyer for each battle-ship, with six for the squadron in the Far East.

Fifty-eight destroyers for torpedo divisions, submarine or independent divisions, with fifteen spare units, a total of 109 destroyers.

Forty-nine submarines for defensive purposes.

Eighty-two submersibles or submarines for offensive.

One hundred and sixty-six torpedo-boats.

It is necessary to take into consideration the ships now on service or under construction, as also to deduct those which will be condemned as obsolete and will disappear from the list of the fleet.

We shall thus have, according to the Minister of Marine, to construct : Eleven battle-ships, ten first-class armoured cruisers, six second-class armoured cruisers, six scouts, sixty-six destroyers, eighteen defence submarines, seventy-two submarines for offence, and fifty torpedo-boats.

On the financial side of the question the Minister demands the setting aside for twelve years, starting from 1907, of a mean annuity of 121,000,000 francs (£4,840,000), to be devoted to new constructions.

M. Bos then gives the number of effective fighting ships of the first line, and of vessels of the second line, which are still fit to be brought into action, actually on service at the present time, as follows :—

	1st Line.	2nd Line.	Total.
Battle-ships .....	11	10	
Coast-defence .....	—	9	
			30
First-class armoured cruisers	10	—	
Second-class    "      "	5	4	
			19
First-class protected cruisers	—	5	
Second-class    "      "	—	24	
Torpedo Dépôt    "      "	—	1	
			30
Destroyers .....	32	18	50
Submarines .....	31	—	
Submersibles .....	7	—	
			38

To these forces must be added in 1908, or 1909 at latest for the last armoured cruisers :—

6 first-class battle-ships of the 1900 Programme;

5 first-class armoured cruisers;

33 destroyers;

3 submersibles;

8 submarines;

And a large number of torpedo-boats.

If the life of a battle-ship is fixed at 25 years, that of an armoured cruiser at 20 years, submersibles and submarines at 15 years, destroyers

and torpedo-boats at 11 years, there will be at the end of 1908 a 1st line force of :—

Battle-ships	...	...	...	...	17
First-class armoured cruisers	...	...	...	...	15
Second-class	"	"	...	...	5
Destroyers	...	...	...	...	65
Submersibles	...	...	...	...	11
Submarines	...	...	...	...	39

In regard to our 2nd Line Fleet, it will be reduced to :—

Battle-ships	...	...	...	...	8
Coast-defence ships	...	...	...	...	9
Second-class armoured cruisers	...	...	...	...	4

The larger part of the present destroyers will have to be struck off in that year; and no account either has been taken of the protected cruisers, as they are without real fighting value.

In 1919, M. Bos points out, if there is no new programme, all the battle-ships, with the exception of two, the "Suffren" and "Jéna," will have been transferred from the 1st to the 2nd line, as well as two of the armoured cruisers, whilst most of the others will be approaching the age limit. All the destroyers at present in service and some of those still under construction, with almost the whole of the submarines and submersibles at present completed, will also have become obsolete. The whole of the battle-ships in the 2nd line will have disappeared, their places being taken by the 9 battle-ships from the 1st line.

M. Bos therefore holds, taking into full consideration the number of years generally agreed upon as constituting the life of modern ships, that 16 new battle-ships—not 11 as provided for in the Ministerial Programme—will have to be constructed; 3 first-class armoured cruisers, and not 10; 15 second-class armoured cruisers in place of 6; 79 destroyers in place of 66; and 82 submarines and submersibles in place of 90. He considers that the Ministerial Programme does not provide for any real increase in the strength of the fleet by 1919, as in 1908 there will be 34 battle-ships in service, which is the number provided for in 1919; the programme merely providing for the replacing of older ships by more modern ones, the increase in force is nominal, and will only be brought about by the greater homogeneity of the squadrons and their superior speed and fighting qualities. There will be a real increase in the number of armoured cruisers, but the utility of this class of ship is being seriously called in question, as they cannot lie in the line with battle-ships, nor fight on anything like equal terms with them. There will also be an increase in the number of scouts and destroyers; but in his opinion the rapid creation of the German and United States Navies, the entry of Japan into the ranks of the great Maritime Powers, the ruin of the Russian fleet, the political situation in Europe, and the probability of the occurring of certain events, which can only be looked forward to with apprehension, imposes on France the obligation of doing much more than producing a building programme which merely provides ships to replace others grown obsolete.

In 1918, if these conditions are maintained, France will only take rank as the fourth naval Power in the world, coming after England, Germany, and the United States; nay, perhaps will only be fifth, as Japan by that time may have taken fourth place.

In regard to the new battle-ships, the Committee hold that the speed laid down for them is insufficient, and that at least they should

have a speed equal to that which is being adopted by foreign Powers for their new ships, that is, 20 knots on trials, which should give easily a sea speed of 18 knots.

They further take exception to the construction of more armoured cruisers, for the reasons already laid down, viz., that they are not proper fighting ships, and therefore do not answer to the requirements of the fleet; that they are very costly to build, nearly as much so as battle-ships, without being able to render nearly as good service; and that their consumption of coal is very great.

They further find that the number of scouts to be provided is quite insufficient. One vessel cannot alone do the scouting work for a squadron as proposed; five or six at least are necessary. Armoured cruisers cannot do the work, as they are too large, burn too much coal, and have not the speed which, under certain circumstances, might be necessary, whilst destroyers, on the other hand, are too weak.

Coming to the financial side of the question, the Committee point out that for the contemplated expenditure of 121,000,000 francs (£4,840,000) a year during the next twelve years, only nine new and homogeneous battle-ships will be provided, while 16 armoured cruisers will have been added to the fleet—vessels inferior in every way to the battle-ships—with 6 cruiser scouts. As the scouts are absolutely necessary this represents three different types of sea-going ships.

While England, which has to show her flag all over the world, and which has the necessary organisation for rapidly concentrating her fleets, with no necessity to maintain a powerful Army to guard her frontiers, may find it convenient to construct different types of vessels, and can afford to do so, the case is very different with France. France cannot afford to imitate England. What she requires is a homogeneous fleet of fighting ships, powerfully armed and well protected, fast and kept always ready to move or be mobilised in 24 hours.

The Committee hold that the new programme does not give an adequate return for the heavy financial sacrifices demanded, and which the country has to pay under penalty of decadence.

The 16 armoured cruisers which it is proposed to construct, 10 of the 1st class and 6 of the 2nd, would each cost, for the 1st type, about 40,000,000 francs (£1,600,000), and 28,000,000 (£1,120,000) for the 2nd, amounting to the total considerable sum of 560,000,000 francs (£22,400,000). But for these 560,000,000 francs, 12 battle-ships of 18,000 tons, could be built, which, added to the 11 whose construction is demanded, would give us a new fleet of 23 battle-ships; that is, 3 squadrons of 6 ships each, with 5 units for relief duty. With this fleet we should be far stronger than with that which is proposed.

France, if these views are adopted, would have in 1919 a fleet of the following strength:—

	1st Line.	2nd Line.
1. Battle-ships ... ..	31 (including the "Suffren" and "Jéna" and the six battle-ships of the 1900 Programme.)	10
2. 1st and 2nd class armoured cruisers	13	—
3. Scouts ... ..	6	—
4. Destroyers ... ..	109	—
5. Submarines and submersibles ...	131	—

That is, 31 first line battle-ships instead of 19, and 10 second line ones in place of 15 of the new Programme.

The views of the Commission of the Budget may then be expressed as follows:—

- "1. An increase of 2 knots, from 18 to 20, in the speed of the new battle-ships<sup>1</sup>;
- "2. The adoption of a single type of fighting ship, viz., the 20-knot battle-ship and the suppression of the 1st and 2nd-class armoured cruisers;
- "3. For the whole programme of sea-going ships, without increasing the Vote for new constructions, 23 battle-ships in place of 11;
- "4. An increase in the number of scouts, or the adoption of measures which will allow the Navy to utilise and arm the fast vessels of the Mercantile Marine;
- "5. Approval of the rest of the Programme as concerns the destroyers and other flotillas;
- "6. The necessity for again summoning the Superior Council of the Navy, the battle of Tsu-shima having been fought since its last meeting, and having furnished lessons of exceptional importance.

"We consider that the Budget of the Navy does not reach the sum really required; that it will be necessary to increase it or have resource to extraordinary measures in order that we may have the fleet which it is incumbent upon the country that it should have, but which can never be created with the amount at present demanded for new constructions.

"It is urgent to consider carefully the composition of this fleet. At the present time our fighting squadrons are inferior to those of Germany. We only have some superiority thanks to our flotillas and without doubt also to the worth of our officers and men. And even with the effort that the Minister is asking us to make and the substitution of battle-ships for the armoured cruisers, which we on our part are asking from him, we shall still be in 1919 weaker than Germany."

Comparative lists of the fleets of the two Powers need not be repeated here. In the words of the Committee, in the matter of battle-ships "France has allowed herself already to be outstripped by Germany; is she going to recover the ground which has been lost?"—*Rapport du Budget Général de l'Exercice, 1906 (Ministère de la Marine).*

JAPAN.—*The New Battle-ships "Katori" and "Kashima."*—The new first-class battle-ships "Katori" and "Kashima," built for the Japanese Government by Messrs. Vickers, Sons, & Maxim, of Barrow-in-Furness, and Messrs. Armstrong, Whitworth & Co., of Elswick, respectively, have completed their steam and other trials successfully, and left England on the morning of the 8th June for their destination. Both ships spent some days at Portsmouth before leaving, where the officers and men were hospitably entertained.

<sup>1</sup>The Minister of Marine has since stated in the Chamber that it is intended to increase the speed of the new battle-ships to 19 knots.

The two ships are the most powerful fighting units in the Japanese Navy, and bear a general resemblance to our own ships of the "King Edward VII." class, the "Kashima" being slightly larger than the "Katori." They were laid down at the end of February, 1904, and have thus only taken two years and three months to complete. The dimensions of the "Katori" are as follows:—Length, 420 feet between perpendiculars, 455 feet 9 inches over all; beam, 78 feet; draught, 27 feet, with a displacement of 15,950 tons, that of the "Kashima" being 16,400 tons. The engines were designed to develop 16,000-I.H.P., giving a speed of 18·5 knots, while making 120 revolutions.

Protection in both ships is identical, and is afforded by a water-line belt, mainly below the load-line, 9 inches thick amidships, and tapering to 4 inches at the stem, and to 3½ inches at the stern, while at the termination of the 9-inch midship portion transverse armoured bulkheads are fitted of the same thickness, extending from the lower to the middle protective decks. Above the water-line belt is fitted an upper belt, 6 inches thick amidships to 5 inches thick at the stem, extending to the main deck in height and from the after 12-inch barbette to the stem in a fore-and-aft direction, its after end being completed by a 6-inch armoured bulkhead carried diagonally across the ship, and constituting part of the after barbette. On the main deck and immediately above the upper armour belt a midship battery is formed of 6-inch armour for ten 6-inch quick-firing guns; this armour at the ends is carried obliquely across the ship to meet the forward and after 12-inch barbettes, thus completing the battery. Nickel steel bulkheads partition each gun off from its neighbour, and with two inner fore and aft nickel steel bulkheads comprise a separate casemate for each 6-inch gun, forming a secondary protection to the interior of the ship. Vertically above the main deck battery is placed a smaller battery of 4-inch armour for two 6-inch quick-firing guns, giving a high fighting position and at the same time protecting the upper works and funnel up-takes. The armour on the barbettes enclosing 12-inch guns is 10 inches in thickness generally, but reduced where already protected by the belt and battery armour, the upper portion of the 10-inch barbettes being 6 inches thick, conning tower 9 inches; and observer tower, 5 inches thick. The protective deck is of a minimum thickness of 2 inches on the flat, increased to 3 inches on the sloping sides, which are carried down to the bottom of the main belt, and 2½ inches thick at the fore and after ends. The main deck outside the battery and the upper and boat decks covering the batteries are also increased in thickness for protection.

The armament of both ships consist of four 12-inch guns of 45 calibres, four 10-inch guns of 45 calibres, twelve 6-inch quick-firing guns, twelve 12-pounder quick-firing guns, three 3-pounder guns, and six Maxims, while her torpedo armament consists of five 18-inch submerged torpedo tubes. The four 12-inch guns are twin-mounted in armoured barbettes—one forward and one aft—having a very wide angle of training; they are capable of piercing 9 inches of hardened armour at a range of six miles, or 12 inches of armour at four miles' range. The four 10-inch guns are mounted one at each corner of the citadel, each in an armoured barbette, and, at a range of six miles, would be capable of perforating 6 inches to 7 inches of armour, while at a range of four miles, 9 inches of armour would not be capable of withstanding their penetrative power. Ten of the 6-inch quick-firing guns are placed on the main deck in an armoured battery, giving great effective training, while two others are mounted on the upper deck in a smaller battery of similar design. These guns

are all of Vickers' latest and most powerful type, and altogether the heavy guns—12-inch, 10-inch, and 6-inch—are capable of developing an energy of close upon  $1\frac{1}{2}$  millions foot-tons per minute. Smaller armaments for defence against torpedo attack are mounted; four 12-pounders on the main deck forward, four 12-pounders on the main deck aft, and four 12-pounders on the shelter decks. The three 3-pounders and six Maxims are on the forward and aft bridges, while the ship is protected by extensive torpedo nets. Broadside torpedo tubes are installed, two forward and two aft, for 18-inch torpedoes, while a stern tube is fitted capable of firing 18-inch or 14-inch torpedoes, either by compressed air or by chemical explosive.

Steam is provided by 20 water-tube boilers of the "Niclausse" type, disposed in three separate boiler rooms, 5 with 16 sections, and 15 with 15 sections, each section consisting of 24 tubes. The total heating surface is 44,000 square feet, and the total grate area 1,334 square feet. The boilers work at a pressure of 230 lbs. per square inch, which pressure is reduced to 200 lbs. at the engines.

The steam trials of the "Katori" commenced on the 24th April, when the war-ship went down the Clyde for a preliminary run. On the 25th a series of runs at increasing powers and speeds were carried out. On the evening of the same day a start was made on a twenty-four hours' run at three-fourths full power. A course was laid right down channel in the face of a strong south-west wind, driving rain, and a rough sea; the waves constantly washed over the forecastle. In spite of these adverse circumstances, the ship behaved well, and was very steady. When half the time was over, the vessel was put about, and the wind also changed, being again dead ahead for the return journey. At the end of the run it was found that the average speed had been 17·8 knots, and the coal consumption 1·6 lbs. per I.H.P. per hour. The boilers were worked entirely by the Japanese sailors.

For the full-power trial, the vessel was loaded to a mean draught of 27 feet, giving her the full displacement of 15,950 tons. A start was made early on the morning of the 28th April. Over the measured distance it was found that with the engines running at 128 revolutions per minute the mean of the mean speeds was 20·22 knots—her contract speed being 18·5 knots. The remainder of the eight hours' full-power trial was carried out with this engine speed.

During the gun trials one of the 10-inch guns was fired five times in 2 minutes  $8\frac{1}{2}$  seconds. The rate of fire of the 12-inch guns is stated to have been also very high. Three rounds were fired from each of this sized gun. Occasionally both guns in a barbette were fired simultaneously, and, it is stated, that no damage whatever was done to the structure of the vessel. The 10-inch guns also fired three rounds each, in addition to the five rounds already mentioned. Two rounds were fired from each of the 6-inch guns, and a test for speed of firing made. It was found that eight rounds were fired in 52 seconds.

The steam trials of the "Kashima" were commenced on the 3rd April, or just twelve months and a few days after the date of the launch. The programme of trials embraced preliminary progressive runs over the Admiralty measured course for the purpose of verifying speed corresponding to varying revolutions, twenty-four hours' trial at four-fifths power, an eight hours' trial at full power, gun-firing trials to test the structure of the vessel, torpedo trials; stopping, starting, steering and circling trials. The whole of these trials were satisfactorily concluded within the period of eight days.

On the first day the preliminary trials, consisting of progressive runs at speeds ranging from 11 knots upwards, were carried out, and the following table shows the mean revolutions and mean speed of the vessel at varying powers:—

No. of run.				Mean Speed.	Mean Revolutions.	I.H.P.
1.	S.	}	... ..	11.136	69½	3,030
2.	N.					
3.	S.	}	... ..	14.27	89	6,275
4.	N.					
5.	S.	}	... ..	16.323	102	9,160
6.	N.					
7.	S.	}	... ..	17.204	110	11,400
8.	N.					

On the completion of this trial the vessel anchored overnight outside the river Tyne in readiness for the gun trials, which took place on the 4th. Three rounds were fired from each of the four 12-inch, four 10-inch, twelve 6-inch, and smaller guns, which were trained at angles calculated to exert the most severe test upon the structure of the vessel and upon the gun mountings; but no damage was sustained, either by the hull of the vessel or by the gun mountings.

At 10.30 a.m. on the 5th the vessel proceeded on the twenty-four hours' trial at four-fifths power, which was completed at the same hour on the following day. Throughout the trial the machinery worked with smoothness and regularity, and no hitch of any kind occurred. The mean power developed throughout the twenty-four hours worked out at close upon 13,000, with mean revolutions 113.6, and mean speed 18 knots.

One day was occupied in cleaning boilers prior to the commencement of the full-power trial of eight hours' duration. On this trial four runs with and against the tide were made over the measured course. The mean speed attained on these runs was 19.242 knots, the mean revolutions being slightly over 123, and the corresponding I.H.P. 17,280. It may be added that during the last two hours of the trial the revolutions increased somewhat, approaching 125; this slight increase gave the vessel a speed of 19½ knots.

The coal consumption on the eight hours' full-power trial worked out at 2.12 lbs. per I.H.P. per hour, and on the twenty-four hours' trial at 1.86 lbs. per I.H.P. per hour.

The whole of the speed trials were completed without the slightest mishap or interruption of any kind. The guaranteed speed of the vessel was 18½ knots, and, as it will be seen, this speed has been exceeded by three-quarters of a knot. On the trials the vessel was at her full load draught.

On Monday, the 9th, the programme of trials was completed by the firing of torpedoes from the five submerged tubes with which the vessel is fitted. On these trials the vessel steamed at 15 and 17 knots.—*Précis* from *The Engineer*.

UNITED STATES. — *Turbines for the Navy*. — The Board on Construction of the Navy Department has made a recommendation to the Secretary of the Navy, that bidders on the construction of the battle-ships "Michigan" and "South Carolina," now being designed, should be invited to submit a separate bid for these vessels, giving them turbine-propulsive machinery.

The bidders were also to make a bid on the construction of the ships with reciprocating engines, leaving the Navy Department the option of having the ships constructed with turbines or with the usual steam machinery. It is probable that this recommendation will be approved. Engineer-in-Chief Charles W. Rae, in an authorised interview, said :—

"We already have contracted for turbine installation on two of the scout ships now building. The Curtis, or American type of turbine, will be placed in one and the Parsons, or English type, in the other. A third scout of the same type will be equipped with the usual reciprocating engines.

"The British Admiralty contemplates installing turbines on twenty-nine naval vessels, one of which is the 20,000-ton battle-ship "Dreadnought." The German and other Navies are installing turbine machinery on war-ships of various types.

"The successful operation of turbine machinery on two ships of the Allan Line, and the "Carmania," of the Cunard Line, has been observed by officers of the Bureau of Steam Engineering, including Commander Canaga, who have made several trips on the ships across the Atlantic. The Bureau has experimented in great detail with a Curtis turbine. From this and other sources there are now at hand sufficient data to warrant our proceeding to consideration of turbine installation in battle-ships.

"At high speeds the economy of operation of the turbine is undoubted. It causes little or no vibration, and this gives an important tactical advantage. For instance, on a ship with reciprocating engines the vibration is so great that the fighting tops are sometimes whipped about like a whiplash, and it is next to impossible to get a reading of the range-finders there placed. We expect to get an extra knot in speed with the turbine installation, but do not count much on gaining space in changing from the reciprocating engines to the turbines."

The "Michigan" and "South Carolina" are to be of 16,000 tons displacement each. They will carry eight 12-inch guns, four forward and four aft. The four guns forward will be paired in two turrets. One turret will stand directly in front of the other. The guns of the second turret will train over the top of the first turret, giving a fire something like that derived from the superimposed turrets of the "Kentucky" and the "Kearsarge," but without the disadvantages of that arrangement. The four guns aft will be arranged in the same manner. This plan of having a main battery of guns of large calibre exclusively is new in the United States Navy. The projected installation of turbines is another new step. There will be no trouble about bids for turbine-propelled battle-ships.—*U.S. Army and Navy Journal*.

## MILITARY NOTES.

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HOME.—The following are the principal appointments which have been made:—

Lieut.-General—Lieut.-General Sir G. Luck, K.C.B., Lieutenant of the Tower of London, to be General.

Major-Generals—Major-General W. E. Franklyn, C.B., from Director of Personal Services, to Command the 4th Division. Major-General J. S. Collins, C.B., to be a Divisional Commander, India. Major-General A. A. Pearson, C.B., I.A., to be Inspector-General of Volunteers, India. Colonel W. du G. Gray, C.B., I.A., to be a Brigade Commander, India, and is granted the temporary rank of Brigadier-General while so employed. Major-General Sir W. F. Kelly, K.C.B., to be Lieut.-General.

Colonels—Colonel A. J. Nixon, h.p., is promoted to the rank of Major-General. Colonel H. N. Bunbury, from h.p., to be a Brigadier-General in charge of Administration, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel E. A. M. Barrett, C.M.G., Ordnance Officer, 2nd Class, to be an Ordnance Officer, 1st Class, with the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet-Colonel J. H. Poett, C.B., from the Dorsetshire Regiment, is granted the substantive rank of Colonel in the Army, on appointment as an A.A.G. in India. Lieut.-Colonel and Brevet-Colonel C. W. Carey, M.V.O., from h.p., to be an Officer in charge of Infantry Records, and is granted the substantive rank of Colonel. Colonel (temporary Brigadier-General) G. F. Browne, C.B., D.S.O., to be a Director of Personal Services, retaining the rank of Brigadier-General while so employed. Lieut.-Colonel and Brevet-Colonel the Hon. A. E. Dalzell, C.B., from h.p., to be an Officer in charge of Infantry Records, and is granted the substantive rank of Colonel in the Army. Colonel T. D'O. Snow is granted the temporary rank of Brigadier-General in the Army. Major and Brevet-Colonel T. Capper, D.S.O., from the East Lancashire Regiment, to be Commandant of the Indian Staff College, and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet-Colonel St. G. C. Henry, C.B., Adjutant-General, Egyptian Army, is granted the substantive rank of Colonel in the Army. Colonel (temporary Brigadier-General) F. S. F. Stokes, from Commanding the 17th Infantry Brigade, is promoted to the rank of Major-General, to Command the Infantry Brigade at Malta. Colonel V. J. Dawson, C.V.O., from h.p., to be a Brigadier-General, to Command the 17th Infantry Brigade. Lieut.-Colonel R. Crawford, Ordnance Officer, 2nd Class, to be an Ordnance Officer, 1st Class, with the substantive rank of Colonel in the Army.

By the kind permission of Mrs. A. E. Wintern, the following account is taken from the work of Colonel C. Walton, C.B. :—

#### STANDARDS OF THE KING'S REGIMENT OF LIFE-GUARD.

*Commanded by the Earl of Lindsay, 1645.*

##### AUTHORITIES AND NOTES.

*Colours and Devices.*—Diary of Richard Symonds Harl. M.S.S. Brit. Mus.,  
911  
giving drawings of the six "Ensigns" of the "King's Regiment of Life-Guard commanded by the Earl of Lindsay," with the colouring noted in heraldic initials. The emblem of the 3rd troop was two roses and two crowns, of the 4th troop a dragon.

The fringes and devices in 1680 were of gold and silver, Royal Warrt. for payment 15th September, 1680, Britt. Mus. Add. M.S.S. 5752; but as Symonds specifies gold only for the devices, there is little doubt that the fringes were the same. Symonds shows no fringes, but there can be no doubt that fringes were invariably used on Cavalry Standards; Markham, 1645 (and see also Chap. XXIII.).

*Form and Size, etc.*—Symonds, 1645.

Markham's soldiers accidence, 1645.

Drawing of a "Cornet of Horse" in a bill temp. Charles II. for funeral of Major Sir T. Bridges, Britt. Mus. Add. M.S.S. 26683 (see also Chap. XXIII.).

*Staves.*—The staves are from originals of about this period in the Porte d'Hal, Armoury, at Brussels (see also Ill CLXXVIII.).

*N.B.*—The rose and crown as given by Symonds have been verified from the metal seal of Henry VII. to his charter with Westminster Abbey for the building of his chapel.

**ARGENTINE-REPUBLIC.**—*Military Organisation.*—The military organisation of the Argentine-Republic, is at present regulated by a law of the 30th September, 1905, of which the following are the principal points :—

Military service is obligatory, and lasts for 25 years (20 to 45 years of age). A portion of the class called out each year, selected by drawing lots and numerically fixed by the budget, puts in 1 year of service with the permanent Army, and the remainder 3 months. The 9 following classes form the Reserve of the Regular Army; the 10 following the National Guard; and the 5 senior classes the Territorial Guard. Disciplinary Corps receive individuals who have undergone sentences of punishment before entering the service.

Soldiers serving with the colours must abstain from politics, and are not entitled to a vote. Every citizen exempt from service pays a military tax from the age of 20 to 45. Students of scientific professions, pupils of normal schools, of national institutes, and of superior professional instruction, may present themselves, before they have completed their 19th year, as candidate officers of reserve, and select the period at which they wish to carry out their 3 months' service with the colours, either for the year preceding, or during the two years following the calling out of their class. At the end of their 3 months' service, they pass an examination for fitness, and if they fail to satisfy the examiners, they are obliged to serve during the period to which they were allotted by the drawing of lots.

Young men called out for 1 year, who, after their enrolment, show a satisfactory knowledge of the regulations and practice of musketry, only serve for 3 months. Voluntary engagements may be contracted between the ages of 16 and 20 in the schools; from 17 to 30 in regiments; and re-engagements up to the age of 50.

Men belonging to the Reserve have to serve for two periods of drill or manœuvres, lasting for 1 month each, at times fixed by the executive power. They must, in addition, take part once a year in the rifle meetings organised in the territory of the military district where they reside. Finally, the Reserve Cadres are liable to be called out for two periods of supplementary instruction for a maximum duration of 15 days each.

The instruction and organisation of the National Guard, and the nomination of its officers, are in the hands of the governors of provinces for such troops as are stationed in the district, and in those of the executive power for such as are quartered both in the capital of the Republic and in the national districts. Citizens belonging to the National Guard have to serve for four instruction periods, of a maximum duration of 15 days each.

The Territorial Guard is organised in a similar manner to the National Guard, but is only compelled to serve in the event of war. There exists in each province an Inspector-General of Militia, charged with the direction of the National and Territorial Guards.

*Officers.*—The cadre of officers of the Permanent Army (infantry, cavalry, artillery, and engineers), is as follows:—

Rank.						Number.	Age limit.
Lieutenant-Generals	...	...	...	...	...	3	65
Generals of Division	...	...	...	...	...	6	63
Generals of Brigade	...	...	...	...	...	12	60
Colonels	...	...	...	...	...	70	57
Lieutenant-Colonels	...	...	...	...	...	150	54
Majors	...	...	...	...	...	200	50
Captains	...	...	...	...	...	320	46
First Lieutenants	...	...	...	...	...	320	43
Lieutenants	...	...	...	...	...	300	40
Sub-Lieutenants	...	...	...	...	...	300	40
Total						1681	

For promotion to sub-lieutenant, a youth must have passed successfully through the Military College. The lowest limit of age for admission to that establishment is 16 years; and the higher limit, 20 years for young men not in the service, and 25 years for those serving with the colours. Promotion, in peace time, is partly by seniority,<sup>1</sup> and partly by selection, up to and including the rank of lieutenant-colonel, and by selection alone for the higher ranks. The classification of officers is placed in the hands of a tribunal, consisting of the Chief of the Staff of the Army, the Chief of the Military Cabinet, and the inspectors of the various branches of

<sup>1</sup> With selection, for officers, whose seniority entitles them to promotion to a higher rank, and who do not appear fit for it, are not selected in their turn, and are then entitled to ask to be pensioned.

the service, under the presidency of a general officer appointed annually by the executive power. After 15 years' service officers are entitled to a pension, the rate of which varies according to half the total amount of the pay of the rank according to the number of years' service.

*Officers of Reserve.*—Officers of reserve are recruited from pensioned officers,<sup>1</sup> and partly from young men who request, before entering the service, to become candidate officers of the reserve, as has been already mentioned. In addition, men, who, on the termination of their period of active service, apply to become officers of reserve, go through a supplementary course of instruction of 90 days, after which they must pass a qualifying examination.

The cadre of reserve officers is as follows :—

Sub-lieutenants	-	-	-	-	-	-	1,100
Lieutenants	-	-	-	-	-	-	1,100
1st lieutenants	-	-	-	-	-	-	1,100
Captains	-	-	-	-	-	-	1,100
Majors	-	-	-	-	-	-	400
Lieut.-Colonels	-	-	-	-	-	-	200
Total	-	-	-	-	-	-	5,000

Officers of the National and the Territorial Guards are recruited from old reserve officers, transferred, on account of age, to the Militia; the latter may, at the same time, be allowed to continue to serve in the reserve up to the age of 45.

*Staff.*—The organisation of the Staff of the Argentine Army is at present governed by a recent regulation, whose essential dispositions may be thus summarised :—

The Staff, constituted from the General Staff of the Army, charged with all work connected with the preparation for war. It consists : 1st, of officers in possession of staff certificates; 2nd, of field officers selected for service on the Staff, and who, after having performed the duties of chiefs of division and of section to the Grand General Staff, have been passed as fit for that service. The Staff is divided into the Grand General Staff, under the orders of the Chief of the Grand General Staff of the Army (general or colonel), and the regimental staffs. The Grand General Staff consists of a secretariat and of 3 divisions, the personnel and duties of which are as follows :—

#### *Secretariat and Office of Chief of the Grand General Staff.*

The Secretariat is divided into two sections: 1st, Military history of the Republic, library, personnel of staff officers and employés, Higher War School, and general correspondence; 2nd, Administration, pay, and commissariat.

*1st Division* consists of two sections: 1st, Mobilisation, concentration, and communications; 2nd, Transport, Calling out and sending down of the class.

*2nd Division* consists of three sections: 1st, Operations and theatres of possible operations, manœuvres, staff rides, territorial defence; 2nd, Information, statistics; 3rd, Foreign armies and foreign missions.

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<sup>1</sup> Pensioned officers are obliged to remain in the Reserve Cadres for 5 years; general officers form part of it up to the age of 70.

*3rd Division.*—The topographic company is attached to this division, which consists of three sections: 1st, Geodesy; 2nd, Topography; 3rd, Cartography and maps.

*Recruiting for the Staff.*—On their exit from the War School, officers noted as fit for the Grand General Staff, are first sent to a corps of their own branch of the service, where they remain as long as the requirements of the service demand. They are then called to the Grand General Staff, where they stay for a year, at the expiration of which they are posted to the staff, if they have proved satisfactory. Field officers called directly to serve on the Grand General Staff cannot be nominated to the staff except after at least 3 years' service, and after having fulfilled the duties of chief of a division or section; whilst waiting they are considered as attached to the Grand General Staff. Staff officers are excluded from the staff corps when they cease to be intellectually or physically fit to be usefully employed on it; they are then sent back to the branch of the service from which they originally came.—*Revue Militaires des Armées Étrangères.*

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*BELGIUM.—Grand Manœuvres for 1906.*—Grand Manœuvres will be held this year on varied ground; they will take place from the 29th August to the 7th September, between the 3rd and 4th Divisions of the Army. They will be directed by Lieut.-General Timmermans, Commanding the 2nd Military District, and will be carried out between Bastogne, where the 3rd Division will be concentrated, and Bourg-Léopold, where the 4th Division will assemble. These divisions will march against one another, and engagements may be expected to take place in the valley of the Meuse, under the guns of Liège.

Each division will consist, in addition to the usual services, of 2 infantry brigades of 2 regiments each, and 7 or 8 field batteries. The 2nd Cavalry Brigade (1st and 2nd Lancers), and the 38th Horse Artillery Battery will be attached to one of the divisions, whilst the 2nd Regiment of Guides, and the 39th Horse Artillery Battery, will be attached to the other. The 1st and 2nd Battalions of Carabiniers, formed into one regiment, will also take part in the Grand Manœuvres with the cyclist companies of the 3rd and 4th Battalions of Carabiniers, placed at the disposal of the Director of the Manœuvres to reinforce either side.

The engineers, fortress artillery, and the fortified positions of Anvers, Liège, and Namur, will carry out, as in previous years, cadre and mobilisation exercises. The 13th and 14th Infantry Regiments will also take part in these exercises at Namur and Liège respectively, conjointly with the available infantry and cavalry cadres of those garrisons.

Musketry exercises for the men, followed by regimental, brigade, and divisional Manœuvres, will be held at the camp at Beveloo, for the 1st, 2nd, and 4th Divisions of the Army, as well as for the 2nd Cavalry Division. They will also take place at Arlon and its neighbourhood for the 9th Infantry Brigade and the 3rd Division of the Army.—*Revue Militaire Suisse.*

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*GERMANY.—An Automatic Rifle.*—The *Neue Militärische Blätter* lately gave some information regarding an automatic rifle, system Fidljeland, model 1906, which has recently been experimented with on the Halense ranges, by the Small Arms Experimental Committee. The calibre of the rifle is 6.5 mm. (.253 inch); the barrel is 655 mm. (2 feet 1 inch) long; the rifle weighs 4.13 kilogrammes (9 lbs.) without the bayonet; its length without the bayonet is 1.15 metres (3 feet 9½ inches).

The bullet, the weight of which is not given, is fired by a charge of 22 grs. (1.24 drs.) of powder, with a velocity of 667 metres (2,162 feet-seconds). Six aimed shots can be fired in  $2\frac{1}{2}$  seconds. The rifle holds 6 cartridges by a very simple method. Whilst firing, no recoil is felt. The latter is utilised by means of springs, to open the chamber, eject the empty cartridge case, and to introduce a fresh cartridge. In spite of the multiplicity of these operations, the mechanism is most simple, and the management of the rifle carried out without difficulty. The various parts of the breech and the loading mechanism are of a very simple form. This rifle may be made from any calibre, which is a most important quality in view of the adoption of this system to other small arms.

The *Militär-Wochenblatt* observes that, naturally, no definite opinion on the practical value of this automatic rifle can be arrived at, except after a long series of experiments. What is at present certain is, that it permits of extreme rapidity of fire. Experiments made up to the present have already demonstrated that the Fidjeland system possesses very great advantages. Thus once raised to the shoulder it can remain there whilst 6 shots are fired. The strain on the muscles is thus far less than when after each shot the rifle must be brought to the hip to reload.

In a comparison practice with regard to rapidity, carried out by the Fidjeland rifle, and a repeating rifle fired by a first-rate shot, it was shown that the former had already fired his 6 shots, before the repeating rifle had fired 2.

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*Tactical Employment of Machine Guns.*—As is known the official idea in Germany for the employment of machine-gun detachments, is, that these detachments of six guns should not, as a rule, be broken up, and should remain, as a whole, at the disposal of the Commander-in-Chief; their distribution by sections is only provided for exceptionally, in order to meet local requirements. It is, therefore, not without interest to note a divergent opinion on this subject put forward in the *Neue Militarische-Politische Korrespondenz*, and reproduced by the *Neue Militärische Blätter*.

The war in the Far East has taught, with regard to the value and method of employment of machine guns, definite lessons, which may be found applicable to European theatres of war; this is not the case with artillery, whose methods of employment, followed in Manchuria, could not be transferred to Europe without considerable modifications.

Machine guns had an annihilating effect when used in support of infantry, and when they fired at short and decisive ranges. But when efforts were made to employ them at long ranges, and to regard them, in a certain measure, as taking the place of field artillery, in spite of the enormous expenditure of ammunition, the results were nil. The mission of machine guns can then, in the future, be only regarded as a re-enforcement to the power of infantry fire. Thus employed, their influence is particularly great when it is a question of obtaining local effect, viz., to bar a road, on advanced or flanking positions, at weak points in the defence, in the pursuit, or to ensure the rapid occupation of a position carried at great cost.

It would, therefore, seem necessary that they should be broken up into as small units as possible. Two machine guns should suffice to form a unit capable of acting independently. The greatest possible liberty of action should be left to commanders of machine gun units.

They may be attached to a column, but should be perfectly independent, subject, of course, to the condition that they act conformably to the views of the column commander. Their efficacy has proved so decisive under the leading of keen officers, that in future the side which has the greatest number of well-trained machine-gun detachments, will have a very marked superiority from an infantry point of view.

The United States, who employed machine guns in the Philippines with the greatest success, intend to permanently attach a machine gun section to each infantry battalion and to each cavalry squadron; these machine guns, from a tactical and administrative point of view, will form an integral part of the unit to which they are attached; a similar organisation existed 150 years ago, when the regimental cannon was created.

The action against hostile machine guns is, above all, the task of machine-gun detachments themselves. Should the hostile machine guns be advantageously placed, that is to say, well concealed, the firing on them must be of a very limited nature; artillery is, in this case, the only arm capable of putting them out of action. Even for artillery decisive action against such small objectives, which are easily concealed from view, is difficult. At the same time, the importance in action of single machine guns, judiciously posted, is such that a large expenditure of artillery ammunition would appear justifiable in such a case. The machine guns in Manchuria were often fired from behind walls through embrasures, and were thus well protected from shrapnel fire, and could only be reached by the fire of common shell demolishing the wall, which necessitated a large expenditure of ammunition.

Machine guns are not dangerous to artillery so long as the latter do not come within range of infantry fire, which rarely happens.

According to the above point of view the solution, consisting of bestowing a machine gun section to every battalion, would be preferable to the formation of companies of 6 or 8 machine guns, as in Germany and Russia, where they prefer units of that nature.—*La France Militaire*.

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ITALY.—*Draft of the Recruiting Regulations*.—The War Minister has, on the part of the Government, laid before Parliament a draft of regulations greatly modifying those at present in force with regard to recruiting. As the War Minister himself observed, the salient features of the new regulations are the following:—

1. Reduction to two years of the period of service in the Regular Army for the greater portion of men passed fit for the combatant branches;
2. Suppression of one year voluntary enlistments;
3. Increase of the contingent by reducing the cases for exemption from service for family reasons;
4. Improvement of the contingent.

The War Minister declares that it is budgetary considerations alone which have prevented him from proposing the immediate reduction to two years' service with the colours for the whole of the men of the contingent. The adoption of that measure would have resulted in an increase of several millions to the annual expenditure of the War Budget. Under these conditions the Government has confined itself to a proposal to apply the two years' period of service to the largest possible number of men of the contingent. It proposes to retain the three years' period of

service for the mounted branches of the service, as well as for the recruitment of the cadres, and for men for special employment; further, it is of opinion that, in the interests of their commercial careers, it is necessary, at present, to allow certain reductions of service to young men following a special course of study, and who have the qualities requisite for appointment to the rank of supernumerary officers. Finally, in order to give a real impetus to the physical education of the people, the Government has agreed to allow certain reductions of service to youths who have profitably followed courses of gymnastics and target practice, under conditions to be laid down in a special regulation. To sum up, then, according to the Government scheme, the annual enrolments will reach approximately the following figures:—

22,500 men serving for three years;

80,000 men serving for two years;

5,500 men, able to be discharged after 18 months' service, or even earlier, if it is a question of one year volunteers.

Under the regulations at present in force, the number of annual enrolments amounts to about 90,000 men. Under the new scheme the enrolments will amount to about 108,000 men. Taking into account the normal casualties, which occur each year, the effective of men serving with the colours will average 233,000, and infantry companies of the Line will, for the greater portion of the year, be 90 men strong. The annual increase of the contingent will be 18,000 men; the result of this will be to give a military training to a larger number of young men; everything, consequently, being otherwise equal, the army of the first line will consist in war time of a larger number of young men, which is a great advantage.

The reduction, to two years, of the period of active service, will make the recruiting regulations less heavy on the nation. It, therefore, seems possible to the Government to reduce, in a certain measure, the exemptions in the Italian regulations. In order that a brother, therefore, may transfer his exemption to another brother, the latter must be inscribed on the registers of the Permanent Army, in order that he may be able to take advantage of the exemption. On the other hand, the present regulations exempt from active service the only son of a living father, or the eldest son of a father, who has no other son over 12 years of age. The new scheme, in order to limit the number of exemptions given under this heading, proposes only to allow these exemptions when the father has entered his 48th year.

As regards the one year volunteer, the War Minister wishes to be able to abolish him, purely and simply; at the same time, being compelled to take the general conditions of the country into account (commerce, agriculture, etc.), he has thought himself obliged to retain him, similarly to what is done in Germany and Austria-Hungary. At the same time, the one year volunteer will be surrounded with such guarantees that it will not be possible to divert him from his true object.

The one year volunteers should form a sort of nursery, from which the supernumerary officers will be recruited. The War Minister, therefore, proposes that young men should not be permitted to contract a voluntary engagement for one year unless they are in possession of certificates or university diplomas, permitting them to become supernumerary officers. Those of them who, at the conclusion of their year's period of service, have been unable to successfully pass the examination for appointment of supernumerary officers, will be obliged to prolong their period of service

another six months. In order to ensure the development of target practice, and of institutions whose object is to develop the body and the spirit of the people, the War Minister proposes that, in order to obtain a reduction in the period of active service, and to aspire to the status of supernumerary officers, young men should be compelled to follow courses of gymnastics and target practice, both with regularity and profit. Further, the War Minister proposes to allow these young men further advantages, such as the choice of their regiment, as long as they select a corps of the branch of the service to which they are posted, and which takes young men of the district to which they belong. Finally, should it be necessary to discharge in anticipation a portion of the contingent, it is from those young men who have gone through gymnastic and target practice courses that selection will be made.—*La France Militaire*.

**ROUMANIA.**—*Regulations for Army Re-engagements.*—The regulations recently put into force for the re-engagements of under-officers, corporals, and private soldiers of the Roumanian Army, lay down that after three years' service with the colours, re-engagements may be permitted. These re-engagements may be contracted for, at least, two, and, at most, for five years, and may be renewed up to the age of 46 years.

Those men who only re-engage for two years, are not entitled to a bounty, with the exception of artisans, musicians, artillery artificers, and hospital orderlies. The latter, in addition to their pay and maintenance, receive bounties on the following scale:—

On 1st Re-engagement	15 ley	(about 12s.)
„ 2nd „	20 „	(about 16s.)
„ 3rd „	30 „	(about 24s.)

Re-engagements for five years are only open to those under-officers who engage themselves exclusively for continuous service. They are entitled to the pay and maintenance laid down for under-officers and to bounties at the following rates:—

On 1st Re-engagement	30 ley	(about 24s.)
„ 2nd „	50 „	(about 40s.)
„ 3rd „	70 „	(about 56s.)

These under-officers are called *plotonieri*, or section-commanders, and there are four of them to every company, squadron, and battery. Unmarried under-officers are lodged in barracks, whilst the married ones live outside. Their arms, clothing, and equipment are provided by the State.

On leaving the Army these under-officers may be brought forward for lieutenantcies in the Reserve, on the recommendation of the general officer commanding, if they are in possession of a certificate of efficiency from their regimental commanding officer, and have at least 13 years' service. Under-officers, who have at least 13 years' service, and who, on leaving the Regular Army, are in possession of a certificate of good conduct from their regimental commanding officer, are entitled to a civil appointment in their own parish, at the same rate as they held in their regiments, viz.: in the customs railway, Government employ, public administration, etc. The War Department sees that openings for the necessary number of situations are kept in the public offices and institutions.

Those section-commanders, entitled to a pension, who have served from 18 to 25 years in an exemplary manner, receive gratuitously, from

the State, a piece of ground 20 hectares (a hectare = 2 acres, 1 rood, and 35 perches), in extent in the Dobritza district on the frontier, or in the interior to the extent of 15 hectares; if, however, they are assigned land on the left bank of the Danube, they only get 6 hectares. In addition to this grant of land, they receive a money grant of 700 ley (about £28) for the purpose of building a house and the purchase of cattle and agricultural implements. This claim lapses if not made good within a year of being pensioned, or if the pensioner has not established himself on the ground within a year of its having been given him, or in two years, if the ground has not been cultivated. The ground may be neither sold or let, and the owner is obliged to work it himself for 30 years.

The pensions amount to :—

*After 18 Years' Service.*

Privates : 20 ley (about 16s.) monthly.

Corporals : 25 ley (about 20s.) monthly.

Under-officers : 40 ley (about 32s.) monthly.

*After 25 Years' Service.*

Privates : 30 ley (about 24s.) monthly.

Corporals : 40 ley (about 32s.) monthly.

Under-officers : 50 ley (about 40s.) monthly.

Once a pension has been given no more extension of service is permitted.

Men who become utterly unfit for service, who are entitled to no other pension, and who are unfit to earn their own livelihood, receive a compassionate allowance for life from the Government, at the following rates :—

Under-officers : 30 ley (about 24s.) monthly.

Corporals : 20 ley (about 16s.) monthly.

Privates : 15 ley (about 12s.) monthly.

Wounds and injuries, even if incurable, but which do not prevent a man from earning his livelihood, only entitle the man to a compensation of 250 ley (about £10). Widows and orphans of a man entitled to pension receive the whole of his pension until the majority of the youngest of them. Childless widows are entitled to half the pension. Two or more orphans to the entire pension; one orphan to half the pension; all, however, only until they attain their majority. Neither widows or orphans are entitled to a life pension.—*Internationale Revue über die gesamten Armeen und Flotten.*

**RUSSIA.**—*Reduction of Military Service.*—An Imperial Rescript of the 20th March last, reduced the period of service in the Regular Army to 3 years in the infantry and foot artillery, and to 4 years in the other branches of the service. The *Ruskii Invalid* writes as follows on the subject :—

Although the legal period of active service in the land forces was 5 years, as a matter of fact, on account of mobilisation and other considerations, soldiers were only retained with the colours, especially in almost the whole of the infantry and foot artillery, for 4 years, and sometimes for only 3 years and 6 months. At the same time, in some remote

districts, such as the Amur Military District, men of the infantry and foot artillery remained with the colours for 5 whole years. Under these conditions the chief bulk of the men (88 per cent.) were retained for 4 years with the colours, and a small portion (12 per cent.) served for the entire 5 years laid down by the regulations. Consequently, only four classes are reckoned for the infantry and foot artillery, whilst there are five classes for the remainder of the Army.

In order to put into practice the new law regarding the reduction of service, the effective of the Army must be reduced by one class; that is to say, diminish, at a blow, our Regular forces by one quarter (taking into account the bulk of the troops), which is naturally impossible. It should not be forgotten that the greater portion of the non-commissioned officers belong to the senior classes (the 1903 and 1904 classes in the infantry and foot artillery). Consequently, if there were simultaneously drafted into the reserve the men of the class now available, according to the law now actually in force (the 1903 class in the infantry and foot artillery), and the men of the class following according to the application of the new law (the 1904 class in the infantry and foot artillery), the Army would be deprived of two-thirds of its most experienced non-commissioned officers, who would naturally be of the greatest assistance at the time of the application of the new law.

Thus, it is for these reasons, that the Imperial Rescript of the 20th March lays down the gradual reduction of the period of service. The same Rescript orders the reform in question to commence this year. Thus, by virtue of this order, the effective of the next recruit contingent (that for 1906) has already been calculated by the War Minister by taking into account the reduction of service, and, further, steps are being taken for sending a larger number of men, than in preceding years, to the reserve. In normal times the transfer of men to the reserve is carried out every autumn at the conclusion of the Summer Manœuvres, a period when troops have a cadre of young non-commissioned officers, capable of replacing those who are discharged. It is for this reason that the new law does not affect the men who conclude their regulation engagements during the present year (4 and 5 years); these men will pass into the reserve at the usual period.

The immediate discharge of those men would make it impossible to have any summer manœuvres, and would not only lower the effective of the Army, but would also be detrimental to the training of units by taking from them a third of their old non-commissioned officers. All these considerations necessitate the progressive application of the new law. By causing this reform to take effect next autumn, it will be possible, without prejudicing the effective, and the military value of the bulk of our Army, to put into force the reduced period of service, progressively during the three following years, by simultaneously increasing the annual contingent of recruits, and the number of men drafted into the reserve.

Thus, during next autumn, all men of the infantry and foot artillery belonging to the 1903 class, and about a third of the men of the 1904 class, will be passed into the reserve. In the other branches of the service the men of the 1902 class, and about a third of the men of the 1903, will be passed into the reserve.

In the Navy the period of service is reduced from 7 to 5 years. The heavy loss in ships sustained by the Navy in the last war does not permit the Admiralty to carry out the new law, at a single blow, next autumn.

*General Kuropatkin's Farewell to the Officers of the 1st Army.*—The *Ruskii Invalid* publishes the farewell address of General Kuropatkin to the officers of the 1st Manchurian Army, of which it may be of interest to reproduce the principal passages with regard to the losses suffered by, and the moral situation of the Russian Army. After recalling to mind the actions in which the troops of that Army took part, the General continues :—

“With the comparatively small number of 5½ Army Corps (160 battalions), corresponding to an average effective of 2,200 officers, and 100,000 combatants, the Manchurian Army lost, from the commencement of the war up to the 14th March, 1905 :—

	Officers.	Men.
Killed ... ..	395	10,435
Wounded ... ..	1,733	56,350
Total ...	2,128	66,785

“Which represents a total loss of 91 per cent. for officers, and 67 per cent. for the men.

“For certain regiments of the East Siberian Rifles the loss in killed and wounded for the whole war was as follows :—

	Officers.	Men.
34th Regiment ... ..	89	3,213
36th “ ... ..	73	2,531
3rd “ ... ..	102	2,744
4th “ ... ..	61	2,170
23rd “ ... ..	59	2,290
1st “ ... ..	71	1,929 <sup>1</sup>

“These numbers show that the percentage of officers killed and wounded is higher than that of soldiers, and proves the self-sacrifice of officers in the fighting; many Corps showed that even after the loss of two-thirds of their effective in killed and wounded, Russian officers and men were able to continue fighting. But in spite of such sacrifices we were unable to obtain the victory.

“The sanitary condition was excellent during the whole war, thanks to the efforts of the Medical Department; without them, on account of the tardy arrival of re-enforcements, nothing would have been left of us but cadres. It was, therefore, of the utmost importance not to relax our efforts to keep the men in good health, and these efforts obtained an unusual result; the total of our loss by sickness was lower than that in

<sup>1</sup>The normal war effective of these Corps, which then consisted of three battalions, was 54 officers, 6 clerks, and 3,221 men, 324 of whom were non-combatants; but up to Mukden inclusive, the effective was always lower than these figures, and at the time of the battle of Liao-Yang, for instance, some of the above-mentioned regiments had an effective varying from 32 to 41 officers, and from 1,450 to 1,900 men. Many of these regiments were thus almost entirely renewed during the course of the campaign.

killed and wounded. The 1st Manchurian Army lost altogether, from the commencement of the war, up to the 14th March, 1905:—

	Officers.	Men.
Killed or wounded in action ... ..	2,128	66,785
Entered hospitals at various periods from sickness ...	2,390	58,093

"I should, I think, point out that if the loss in officers in action was comparatively higher than that of the men, the loss in officers from sickness should be relatively lower than that of the men, on account of the superior conditions of life under which they find themselves. It appears, however, from the figures quoted above, that the officers are wanting in physique, and do not know how to look after their own health.

"Let us go back and examine the principal causes, in addition to the insufficiency of effectives, which prevented us from conquering before the conclusion of peace. Above all, it is I who am blameworthy, I, your Commander-in-Chief, for I was not able, during the intervals of actual fighting, to remedy existing breaches, both material and moral, and to utilise more thoroughly the incomparable qualities of our troops.

"The material failings are known to all: the small number of bayonets in the companies (due, more especially, to the small concern, on the part of all the authorities, to retain in the ranks, at the moment of action, the greatest possible number of files); the insufficiency of mountain artillery at the beginning; the dearth of high explosive projectiles; the lack of machine guns; of scientific *matériel*; of means of transport, etc. By the month of August, 1905, the greater number of these failings had been remedied, thanks to the extraordinary efforts of the War Minister.

"Amongst the moral failings I should mention the great diversity in the instruction of the troops, the insufficiency of their tactical preparation, the engagement in action by troops in too small units, insufficient orientation of the enemy's position before the battle, especially in the offensive; to this may be added the lack of initiative, the lack of independence amongst subordinates, the dearth of enthusiasm for action on the part of both officers and men, the small desire to distinguish themselves, the insufficiency of mutual assistance, the absence of a resolute spirit, from the private soldier to the Commander-in-Chief, to conclude an operation once undertaken without regard to losses; from which sometimes followed, in consequence of the want of success of the advanced guard, the too hasty abandonment of the necessary efforts to ensure victory, followed by the retreat to the rear instead of renewing the attack and giving an example of personal bravery. In many cases, this retreat, instead of inciting neighbouring forces to redouble their efforts to restore the balance of the fighting, served as a signal for the retreat of the neighbouring troops, who were not even attacked.

"As a rule amongst officers of all ranks there was not a sufficient number of tried military ability, with iron nerves, capable of rising to every situation, and of enduring, without fatigue, an almost uninterrupted battle lasting for a great number of consecutive days. Evidently, neither school or experience of life had turned out, in the whole of Russia, during these last 40 or 50 years, strong, independent characters, otherwise we would have found a far larger number of them in the Army than was actually the case. The Army, however, cannot wait for the work of a new generation. We must ourselves set to work without losing a moment.

"You have yourselves proved, by experience, the painful conditions of the modern battle. Many of our officers are physically weak; they should practise gymnastics, fencing and shooting. The officers should not despise the physical exercises of the men, but should, on the contrary, set them an example.

"In the Russian Army our officers have always been on friendly terms with the men; they have always had paternal relations with them. Our soldiers do not fear severity; they appreciate it, on the contrary; it is, as a matter of fact, the salvation of the Army; the soldier, at the same time, readily recognises injustice, and clearly sees through any equivocal method practised on him. The men who see their officer always in his place in action, can pardon him many things and will follow him through fire and water. Get on good terms with your men, and gain their confidence.

"As for you, commanding officers, you are imbued with the importance of commanding a regiment; unfortunately, up to the present you have been much too absorbed in secretarial and administrative work. In some military districts a commanding officer is considered as, above all, responsible for the good state of the paint on his regimental wagons, rather than for the tactical preparation of his regiment.

"Learn to know your subordinates. We are poor in men who distinguish themselves by their independence, their energy, and their initiative. Search for them, encourage them, bring them forward. Unfortunately, there do not exist, in Russia, a great number of men of energetic and independent character. In peace time they are regarded as insufferable, and bad characters, and finally they are frequently induced to leave the service prematurely. On the other hand, persons of no character, always ready to agree with their chiefs, are pushed forward. Remember that in this war we have dearly paid for the reckless manner in which we have given testimonials to our subordinates."

General Kuropatkin finished his address by hoping that the experiences of the war would prove profitable to both the Army and the country.—*Revue du Cercle Militaire* and *Revue Militaire des Armées Etrangères*.

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UNITED STATES.—*Brigade Camps of Instruction*.—The Secretary of War this week approved the General Order drafted by the General Staff providing for the military exercises to be held this summer at the seven brigade camps of instruction. The order gives the list of organisations of the Regular Army which will be located at the various camps. It will provide that the department commanders who are required to command camps within the limits of their respective departments, will continue to exercise command of their departments during the continuance of the manœuvres. The division commanders in which the camps are located are charged with the general supervision of the routine of troops to and from the camps. In the concentration of troops at the camps and in their dispersion at the conclusion of the period in camp, the routes will be so arranged as to require marches, which, for the infantry, shall approximate 200 miles each way, and for the field artillery and cavalry, 250 miles each way. It is the purpose to have the camps established, so the order states, not later than 1st August, except for the camp at American Lake, Washington, which will be established 10th August, in order to allow the Regular troops in that department to complete their target practice, and those camps at Mount Gretna,

Pa., Chickamauga Park, Ga., and Austin, Texas, which will be established not later than 27th July. Fifteen per cent. of the enlisted force, with a proportionate number of officers of the various organisations, will remain at the permanent stations of these organisations during the absence of the Regular garrisons. The order states that "it is the purpose of the Department in carrying out the scheme of instruction, to approximate, on the march and in camp, as nearly as may be, the conditions of field service in time of war. The flooring of tents, the piping of water supplies, and the like semi-permanent arrangements are therefore not authorised. And as the object is to harden the troops, and to perfect their field training the maximum of drills, exercises, and problems looking to that end is enjoined, together with minimum of formal ceremonies and a total absence of merely spectacular exhibitions."

Attention is called to the fact that from time to time there will be assembled at the camp portions of the organised militia. As the stay of these organisations will be comparatively brief, the camp commanders are ordered to arrange special programmes of instruction for them. The programme of instruction, and the arrangement of all necessary details for the exercises at the camps, is left by the order to the division, departments and camp commanders. Continuing, the order states:—"It is believed that the experience will be more beneficial to all if staff officers do the work appropriate to their several corps and line officers that pertain to their arms." The camps will continue until 30th September. The march to and from the camps will be not merely marches, but will be made, as far as practicable, the occasion of suitable instruction and extended tests of the clothing, equipment, and transportation as now furnished the Army of the United States.—*U.S. Army and Navy Journal*.

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## NAVAL AND MILITARY CALENDAR.

JUNE, 1906.

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- 1st (F.) The Chinese Regiment was disbanded.  
 " " 58th Co. R.G.A. arrived in England from Victoria, B.C. in the 48th Co. R.E. { "Victorian" to be disbanded.  
 2nd (Sat.) Mateo Moral, the perpetrator of the attempt on the lives of T.M. the King and Queen of Spain, was captured and committed suicide.  
 5th (T.) H.M. The King presented medals for the Tibet Expedition to the 1st Bn. Royal Fusiliers at Windsor Castle.  
 6th (W.) Launch of first-class armoured cruiser "Minotaur" at Devonport Yard.  
 9th (Sat.) H.M.S. "Argonaut" left Plymouth with relief crews for the China Station.  
 " " Heavy fighting reported in Natal. About 500 Zulus killed and many wounded.  
 " " 4th Bn. Worcestershire Regiment left Egypt for Malta in R.I.M.S. "Dufferin."  
 " " New Colours were presented to the 3rd Bn. Devonshire Regiment (Militia) at Newton Abbot by Earl Fortescue.  
 12th (T.) 4th Bn. Worcestershire Regiment arrived in Malta from Egypt in R.I.M.S. "Dufferin."

- 13th (W.) H.M.S. "Andromeda" arrived at Plymouth from China.  
 " " New Colours were presented to the 3rd Bn. the Buffs (East Kent Regiment) (Militia) at Shorncliffe by Field-Marshal Sir George White, V.C., G.C.B., O.M., etc.  
 14th (Th.) Launch of first-class armoured cruiser "Gneisenau" from the Weser Yard, Bremen, for German Navy.  
 " " British officers were attacked at Denshaw, Egypt, by villagers. One officer was killed and 2 severely injured.  
 15th (F.) Official intelligence was received of the death of Bambaata, the rebel Zulu chief.  
 16th (Sat.) 35 Natives were arrested in connection with the attack on British officers at Denshaw, Egypt.  
 22nd (F.) T.M. King Haakon and Queen Maud were crowned King and Queen of Norway in the Cathedral of Trondjhem.  
 23rd (Sat.) Launch of first-class battle-ship "Agamemnon" from the Yard of Messrs. W. Beardmore & Co., Dalmuir, Glasgow.  
 26th (T.) H.M. The King presented new Colours to the 3rd Bn. Grenadier Guards at Buckingham Palace.  
 27th (W.) Four Natives sentenced to death and 16 to imprisonment for complicity in the attack on British officers at Denshaw, Egypt.

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## FOREIGN PERIODICALS.

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*Rivista Militare Italiana.* Rome: June, 1906.—"General Fanti." "Some Unpublished Details about the Siege of Turin, 1706." "Our Fortress Artillery" (*continued*). "Defensive Tactics on the Alps" (*continued*). "A Plea for New Musketry Regulations." "Ballads of the Bersaglieri."

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15th June.—“The Russo-Japanese War: Some Considerations on the Employment of Cavalry.” “A Soldier King and a Nation which is Raising Itself.” “Influence of Command on the Intellectualism of an Army.” “The Island of Teneriffe” (*continued*).

*Revista Científico-Militar y Biblioteca Militar*. Barcelona: June, 1906.—“Captain Barado in the Royal Academy of History.” “The Fire of Artillery in the Last Period of the Attack.” “Fire Against Balloons.” “Advice to Leaders and Officers.” “Observations on the Late War.”

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UNITED STATES.—*Army and Navy Life*. New York: June, 1906.—“Brigadier-General Albert L. Mills, U.S.A.” “West Point and Higher Education.” “Cupid and the Press.” “The New West Point.” “Schedule of Exercises, West Point, June, 1906.” “Our Navy in Vaudeville.” “Galvin's Luck.” “Handling the Wounded in the British Navy.” “Centennial of a Famous Regiment.” “Martial Law by State Authority.” “The Army Horse.”

## NOTICES OF BOOKS.

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*Kriegsgeschichtliche Einzelheiten (Episodes of History). Herausgegeben vom Grossen Generalstabe. Heft 34-35. Aus dem Süd Afrikanischen Kriege 1899 bis 1902. 3 Die Kämpfe in NATAL nach dem Gefecht von COLENZO. Die Ereignisse in Oranje Freistaat and Transvaal bis zum Herbst 1900. Berlin: Mittler & Sohn, 1905.*

The first two volumes of this valuable *précis* of the Boer War were published in 1904 and reviewed at length in the JOURNAL for May, 1904, p. 586. The account was then brought down to the brilliant action at Driefontein on the 10th March, and Lord Roberts' triumphant occupation of Bloemfontein on the 13th March, 1900.

That under review turns back to the operations under Sir Redvers Buller in Natal, from the Battle of Colenso, 15th January, 1900, to the eventual relief of Ladysmith on the 1st March, and then carries on the narrative to the occupation of Komati Poort and the disarmament of the small body of Boers and foreigners fighting with them on the Portuguese frontier on the 26th September, 1900. The Natal operations are dealt with in detail, the remainder only very briefly sketched. The method followed is the same as that described when reviewing the two first volumes. At the conclusion of the account is a short Tactical Retrospect. As in the former volumes, the want of an Index is much felt. The Maps and Sketches supplied with these, though the latter make no attempt at contouring, are sufficiently clear to enable the account of the operations to be easily followed. The Spion Kop maps differ somewhat from those in the "Times History of the War," Vol. III.

The space at disposal precludes following the operations in detail, as is done in these volumes. They are now well known to all officers. All that can be done is to notice a few of the chief criticisms of the German General Staff. As an English translation has now appeared, reference can be made for details to this by those who do not read German.

As in the account of our operations described in the first two volumes, the chief refrain of the German criticism is that, to produce decisive results in war, attacks must be driven home, and not relinquished because heavy loss is being incurred at the time, and that the prolonged operations which in consequence ensue are, in the long run, productive of more loss of life.

**SIR R. BULLER'S OPERATIONS ON UPPER TUGELA.**—After Colenso Sir Redvers Buller determined to turn the Boer position by operations on the Upper Tugela. The Boer attack on the Wagon Hill defences of Ladysmith, on the 6th January, had been severely repulsed by Sir Ian Hamilton. On the 10th January Lord Roberts landed at Capetown and assumed command of the army in South Africa. The 5th Division, under Sir Charles Warren, had arrived at Frere on the 9th January.

The German General Staff think that, though the intention of General Buller to operate by the Upper Tugela was known to the Boers the idea was sound enough, only it should have been promptly executed. It was, however, impracticable to make the rapid movements necessary for this with the cumbersome train of provision wagons that he insisted should accompany the force. His deliberate accumulation of 16 days' provisions for it at Springfield attracted the attention of the Boers, and Vaalkranz, Brakfontein, and Spion Kop were promptly occupied by them. All the orders for the troops, provision columns and their movements at the different crossings are detailed, followed by clear accounts of the various engagements resulting therefrom, with an excellent preliminary description of the ground. Sir Charles Warren's desire for the crossings to be simultaneous is upheld. The waste of time from the 10th to the 16th January is deplored.

"To delay to collect the whole of the 16 days' provisions was fatal: the last few days' supplies could have gone on collecting after the forward movement of the leading troops had begun. This delay enabled the Boers to alter their defensive arrangements."

The account criticises the absence of any clear understanding with Sir George White, besieged in Ladysmith, as to co-operation, though Lord Roberts had especially enjoined this.

THE TURNING MOVEMENT BY ACTON HOMES.—General Buller's "instructions" to Warren are given.

"He gave Warren the larger part of his force in the front, while he remained as a spectator behind. He also gave him full liberty of action, carrying his self-abnegation even so far as to avoid indicating, except very generally, the objects his second-in-command was to aim at. It resulted that the ideas of the latter as to the execution of his task did not accord with those of his superior. Sir R. Buller's instructions should have been more precise as to time and place. He would not himself command the force, contenting himself with interfering from time to time in such a way as to hamper the operations."

Sir Charles Warren's delays and want of energy are severely criticised. His ordering Dundonald back on the 18th January to guard some oxen when he was well on his way to Acton Homes is scornfully alluded to, and it is pointed out that he could not carry out his instructions for a turning movement by Acton Homes unless he made a determined frontal attack while he swung round his left. He thought the Boers' right too strong. He refused to allow Hart to make a night attack, and then decided to give up the turning movement, and to make a frontal attack after all.

#### SIR C. WARREN'S DECISION TO ATTACK BOER CENTRE.

"This would have mattered little had he boldly attacked all along the front, as the Boers were weak everywhere, and had practically no Reserves."

TABA MYAMA.—The defensive measures of the Boers on the Taba Myama plateau, stimulated by Louis Botha's return, are described. The way in which they made use of rough stone shelters and head-cover should be studied by all British officers. We do not seem to have mastered this art. The very few lines devoted to this important practice in our *Manual of Military Engineering* may to some extent account for this, but commanding officers should see that their captains practise their men at it during the annual training (defence of posts).

The authors criticise the piecemeal way in which Sir C. Warren throughout the operations employed his troops. His artillery bombardment quite failed in its effect, owing to its being unsupported by simultaneous infantry attack. Moreover, as the shells were distributed all

over the place where any possible enemy might be, much ammunition was wasted. In "Combined Training," 1905, the old idea of preliminary artillery bombardment before any infantry advance can take place seems to have disappeared. Warren's central attack from One Tree Hill is criticised. He should have attacked Bastion Hill, on the Boers' right, assisted by Dundonald's mounted troops. Dundonald's and Kitchener's successful occupation of this point proves it, and the refusal of support and the withdrawal are blamed. The Boers were kept constantly on the move by Botha. The British method of volley firing, therefore, had no effect.

"Their leaders did not understand the art of using their second line to obtain preponderance of fire."

**SPION KOP.**—Having determined to penetrate to Ladysmith by the Rosalie Farm Road, Warren's decision to first take Spion Kop was, in the opinion of the German General Staff, justifiable, on the assumption that the Taba Myama attack had drawn the defenders of Spion Kop away, and that a swift, energetic assault might win it.

"But this was imperative, and yet the attack was postponed. To hold Spion Kop it was, moreover, necessary to attack all along the Boer front."

This was not done. The whole of the miserable Spion Kop business is described in full detail. There were only about 160 Boers holding it at the time of Woodgate's assault on the night of the 23rd January, which is graphically described. The Boer trenches were rushed about 4 a.m. on the 24th.

"The British should have then pushed forward to the northern edge of the plateau, and have properly intrenched there. Their attempts at this especially failed in giving operations from enfilade fire. The defenders had fled in disorder, but Schalk Burger rallied them and sent a reinforcement of 140 men to the Twin Peaks, and by 7.30 a.m., Louis Botha had reoccupied the Northern edge with about 250 men."

The subsequent fighting on the 24th from the death of Woodgate, the confusion about the command, Coke's wanderings, Thornycroft's charges, and his fatal final withdrawal, are all accurately described. Lyttelton's diversions and the heroism of individual officers are done full justice to, the

"well-planned and well-led attack on the Twin Peaks"

being much praised.

"This brilliant affair, however lacking in permanent effect, owing to Sir R. Buller's recalling these gallant troops at the moment of success, had its use in relieving the British right, for the Boers refused to attempt to recapture the peaks, as they said they would have to give up the hill."

The account says some guns should have been got up on the hill, as they were on the Spichenen heights. These certainly differ in character from the Spion Kop, but many officers think it might have been done.

"The one way, however, say the authors, to relieve the pressure was to attack energetically all along the line with the whole available force, 2½ Brigades. This would not only have relieved the troops on Spion Kop, but might have ensured complete victory. An attack on the Boer right flank would have stopped the flanking fire they were enabled from thence to pour on the left of the British troops on the Kop."

The writers criticise severely Sir C. Warren's want of care in arranging for communication with his leaders on the hill. Proper relays of messengers should have been organised for the night, and a field telegraph might even have been run up. Why this was not done does not appear from the reports. We certainly are behindhand in these matters. The

Germans would probably have had a field telephone or telegraph with any force in the position of Warren's, and have run a wire up to Four Tree Hill at least on the night of the 23rd. The authors think Sir C. Warren should, under the circumstances, have left Clery in command below, and have gone up the hill to have seen for himself how matters lay, and

"have influenced the leaders and their troops by his decisions and orders. He would have seen that the way to victory was by a determined attack on the enemy in front of his own position. Instead of this, he confined his tactics to half-measures, such as details of reinforcement, which he took no pains to communicate to his exhausted commanders on the hill."

The brave attempt of Captain Philipps to stay Thorneycroft's retirement is praised; the acceptance of this by Warren and the immediate decision of Buller to retreat across the Tugela are dryly recorded. Buller's conduct throughout, and his ideas of the situation are but little commented on, but Lord Roberts' despatch is given in full. Buller's interchange of views with Sir George White in Ladysmith are reproduced, and his determination to keep "pegging away" at the enemy until he forced him to decisive action is considered soldierly.

**VAAKCRANZ.**—The Vaalkranz operations are then fully described. The authors consider Buller's plan questionable, as Vaalkranz was dominated by Brakfontein, Spion Kop, and Dorn Kloof.

"Every possible artillery position north of Spearmans is enfiladed on both flanks; or, taken in reverse, Vaalkranz itself is but a narrow ridge, which could be held only if fronting north-west. Even then you are flanked from Brakfontein."

"There was no chance of success if the Boers occupied Dorn Kloof heights, to north and east of Vaalkranz, and this was a certainty considering the slow unwieldy movements of the British."

It was the old story of attacking a defile without first mastering the heights. Buller's long orders, arranging beforehand movements the execution of which must depend on those of the enemy and his resistance are especially criticised. The point of least resistance being found, reserves should have been poured in there.

"Orders for attack should merely give the general object, arrangements and disposition of the troops leading to the fight, leaving it to the leaders to give their orders for the attainments of their special objectives, and keeping further orders until the issue of the first part of the fighting was known."

The whole of this day's operations, with its complicated movements, are criticised in detail.

"It was like a peace manoeuvre on Salisbury Plain. The one false and the one real attack were so obvious to the enemy from the first; the crossings of the stream were so near each other that the Boers could move to oppose either in good time. Simultaneous attack on several points was essential if the enemy was to be induced to keep his troops apart, instead of, as he did, easily concentrating them at the threatened point. Then because everything did not go as he wished, Buller gave up after the usual waste of gun ammunition in firing on points where no men were."

The toughness of the British troops throughout these trying operations is much praised.

**MONTÉ CRISTO.**—Buller then withdrew his force to Chieveley unmolested, the Boers losing a great opportunity, which the authors severely censure. They had occupied strongly a position extending from Hlangwane, by Platkop, Greenhill, to Cingolo and Monté Cristo. On the 14th February White signalled that 500 Boers had gone to Onderbrück.

"On this," says the account, "Buller should have hastened his attack. But he did nothing. The plea of heat was absurd. Lord Roberts had the same heat to contend with."

When he was successful in his attacks, as at Cingolo on the 17th February, he never allowed his leaders to follow them up; nor did he even

bring his artillery into position for the next day's work. When Monte Christo was taken on the 18th February by Hildyard, Buller stopped all pursuit. Warren should have made a simultaneous attack on Hlangwane, opposite the British left, but was held inactive. If this had been done, the Boers' retreat would have been cut, their further resistance would have broken down had Buller pursued at once, and Ladysmith would have then and there been relieved without practically any further fighting. But he slowly occupied positions on the 20th February he might easily have held on the 18th. Buller's refusal to sanction the turning movement by the British right pushing the Boers westward and entering Ladysmith by Bulwana is not so much objected to—though the fighting and loss at Wynne's Hill and Pieter's Hill would have been avoided—as his indecision.

"It was comparatively unimportant which line of advance Buller took provided he acted promptly. His indecision and inaction were more prejudicial than any mistake in the line chosen would have been. After two days' indecision, however, he took the road and railway line, though in the time elapsed the Boers had taken up a strong new front, so that his advance was exposed to view the whole way, and to the concentrated fire of the Boer guns, without his having the compensating advantage of suitable artillery positions to cover the infantry advance."

**WYNNE'S HILL.**—Warren's attack on Wynne's Hill is adversely commented on. The artillery should have been placed on the heights south of the falls, where they could have successfully engaged the Boer guns, instead of on the kopje north of Fort Wylie (2 miles off), where it produced little effect. The left of the British infantry attack was throughout exposed to heavy flank fire from Boers ensconced along the outlying lower spurs of Grobler's Kloof on the left bank of the Onderbrook.

The authors, as most German military writers, condemn night attacks.

"Leaders must always consider that night operations are seldom successful, and always chancey; no amount of peace practice can imitate the danger or imagined danger that affects the men. In fact, in war, the game is not worth the candle. Great decisions can only be fought out by day," etc.

This may be, but the Russo-Japanese War shows that night operations are necessary, and often, if carefully conducted, lead to success.

The Hart's Hill attack failed owing to

"the bad position of the supporting guns and to the want of proper infantry fire."

**PIETER'S HILL.**—The attack on Pieter's Hill is described as

"at last a properly deployed attack, but Buller's plan of attack failed. As at Monte Christo, instead of first holding the front by a tenacious attack, and then making a decisive attack on the Boer left flank, he made the latter first, so it became in fact a mere frontal attack there. The mounted troops were not properly used, remaining inactive nearly all day. The Brigades were mixed up. No pursuit followed, so, instead of the disaster that should have followed, the Boers retired smiling to their homes as if victorious. The mounted troops even, when allowed to pursue on the following day (28th February), were stopped at Bulwana, and Buller made his entry into Colenso on the 1st March, having been three months relieving it, after a loss of 5,000 men, which was out of proportion to his success."

He rested three weeks in Ladysmith, and then wished to force the passes of the Drakenberg, but Lord Roberts forbade this, fearing losses, so it was two months before he could push forward to Pretoria. The German criticism on the fear of losses is very severe throughout; but, of course, Lord Roberts knew that at that time if his seasoned troops were used up there were no more to come.

De Wet's and Delarey's operations are described, as is the relief of Wepener. In the beginning of May, 1900, the 8th Division, a cavalry

brigade, and more mounted infantry arrived from England, so the offensive against De Wet was taken.

"He had by his daring advance into the south-east of the Orange State, brought the Boers into a critical position. Had a bold use of the opportunity thus afforded been made, and De Wet's retreat been cut off, and he been decisively defeated, it would probably have led to the end of the war, but the opportunity was missed. To destroy De Wet was more important than to relieve Wepener."

De Wet's various escapades are briefly described, and his prowess lauded. The account details all the various operations of the different columns. Buller recommenced operations in June. On the 8th, Hildyard's Division took Botha's Pass and defeated C. Botha at Alleman's Nek, which resulted in Laing's Nek being evacuated. On the 12th he reached Carolina, and united with General French. At the end of August Lord Roberts advanced eastward. Buller's capture of the Bergendal Hill on the 27th,

"after a heavy bombardment with 60 guns for hours," is recorded.

On the 11th September General French pushed forward to Kap Minden and Barberton, releasing many British prisoners and capturing much railway plant and rolling stock, etc.

On the 23rd the Guards reached Komati Poort, followed by Ian Hamilton on the 26th, when about 750 Boers, crossing the Portuguese frontier, were disarmed.

This ends the account, as it says it is impracticable to narrate all the events of the guerilla war which followed, conducted for a year and a half with energy by De Wet, Louis and C. Botha, Delarey, and Steyn.

"Exhaustion, want of clothing and ammunition, the blockhouse system, and the destruction of their homesteads, then compelled the heroic Boers to accept the terms of peace offered them by the English."

It is curious that it does not even mention Lord Kitchener in connection with this phase of the War.

The account concludes with a Tactical Retrospect of the War, impossible of reproduction here for want of space. The instruction contained in the British Official Tactical Books go far to remedy some of the shortcomings pointed out; but if the instructions in the red books in use in 1899-1900 had been attended to by all, there would have been few real failures to record.

The German General Staff have given a fair account of the war, and the strictures they have felt bound to make, especially as regards the chief leaders in the operations in Natal, are justified. May we all profit by them.

The main lessons are, that half-measures and want of prompt decision cost more lives in the long run.

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#### PRINCIPAL ADDITIONS TO LIBRARY DURING JUNE, 1906.

*The Enemy at Trafalgar.* By EDWARD FRASER. 8vo. 16s. (Hodder & Stoughton.) London, 1906.

*The History of Japan, Together with a Description of the Kingdom of Siam, 1690-92.* By E. KAEMFER. Translated by J. G. SCHEUCHZER. 3 Vols. 8vo. 37s. 6d. (James MacLehose & Sons.) Glasgow, 1906.

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*Practical Rifle Shooting for Soldiers and Civilians.* By MIDDLETON HALE. Crown 8vo. (Presented.) (Hodges, Figges & Co., Ltd.) Dublin, 1906.

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*Some Lessons from the Russo-Japanese War.* By Colonel J. A. L. HALDANE, C.B., D.S.O. (Aldershot Military Society.) 1906.

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*Von Rossbach bis Jena und Auerstedt.* By General C. FREIHERR VON DER GOETZ. 8vo. 9s. (Ernst Siegfried Mittler & Sohn.) Berlin, 1906.

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*Active Service Pocket Book.* By Second-Lieutenant B. STEWART. Demy 12mo. 2s. 6d. (Presented.) (Gale & Polden, Ltd.) London, 1906.

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*No Man's Land.* By Sir MARTIN CONWAY. 8vo. 10s. 6d. (The University Press.) Cambridge, 1906.

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*Provisional Handbook for the 60-Pounder B.L. Gun Mark I. (Land Service).* 8vo. (Presented.) (Harrison & Sons.) London, 1906.

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*Fredericksburg, a Study of War.* By Major G. W. REDWAY. 8vo. 5s. (Presented.) (Swan, Sonnenschein & Co., Ltd.) London, 1906.

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*Afghanistan.* By ANGUS HAMILTON. 8vo. 25s. (William Hindmann.) London, 1906.

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1896. *Das Preussische Offizier Korps und die Untersuchung der Kriegsergebnisse.* By Herausgegeben vom Grossen Generalstabe. 8vo. (Presented.) (Ernst Siegfried Mittler & Sohn.) Berlin, 1906.

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*Regimental Records of the 3rd Battalion Royal Munster Fusiliers, Formerly South Cork Light Infantry Militia.* Crown 8vo. (Presented.) (Purcell & Co.) Cork, 1906.

*Liberia.* By Sir HARRY JOHNSTON. 2 Vols. 8vo. 42s. (Hutchinson & Co.) London, 1906.

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